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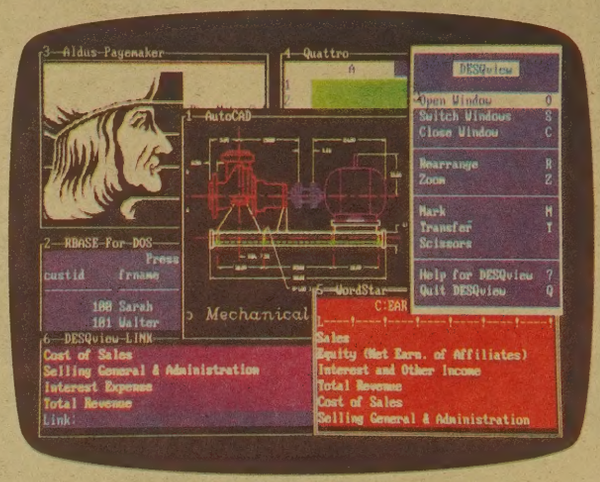
Best of all, DESQview accomplishes all this with a substantial speed advantage over any alternative environment.



Multitask beyond 640K.

When you want to use several programs together, you don't have to leave your current program. Just open the next program. View your programs in windows or full screen. Open more programs than you have memory for. And multitask them. In 640K. Or if you own a special EMS 4.0 or EEMS memory board, or a 386 PC, DESQview lets you break through the DOS 640K barrier for multitasking. You can start 1-2-3 calculating and tell Paradox to print mailing labels while you're writing a report in Word Perfect, or laying out a newsletter in Ventura Publisher, or designing a building in AutoCAD.

For programmers, DESQview's API, with its strengths in inter-task communications and multi-tasking, brings a quick and easy way to adapt to the future. With the API's mailboxes and shared programs, programmers are able to design programs running on DOS with capabilities like those of OS/2.

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Fulfill the 386 promise.

For 80836 PC users, DESQview becomes a 386 control program when used in conjunction with Quarterdeck's Expanded Memory Manager (QEMM)-386—giving faster multitasking as well as virtual windowing support.

And when you use DESQview on an IBM PS/2™ Model 50 or 60 with QEMM-50/60 and the IBM Memory Expansion Option, DESQview gives you multitasking beyond 640K.

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If all of this sounds like promises you've been hearing for future systems, then you can understand why over a million users have chosen DESQview. And why *PC Magazine* gave DESQview its Editor's Choice Award for "The Best Alternative to OS/2," why readers of *InfoWorld* twice voted DESQview "Product of the Year" why, by popular vote at Comdex Fall for the last two years in a row, DESQview was selected as "Best PC Environment" in *PC Tech Journal's* Systems Builder Contest.

PC MAGAZINE EDITOR'S CHOICE NOV. 24, 1987

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DESQVIEW SYSTEM REQUIREMENTS:

IBM Personal Computer and 100% compatibles (with 8086, 8088, 80286, or 80386 processors) with monochrome or color display; IBM Personal System/2• Memory: 640K recommended; for DESQview itself 0-145K• Expanded Memory (Optional): expanded memory boards compatible with the Intel AboveBoard; enhanced expanded memory boards compatible with the AST RAMpage; EMS 4.0 expanded memory boards•Disk: two diskette drives or one diskette drive and a hard disk•Graphics Card (Optional): Hercules, IBM Color/Graphics (CGA). IBM Enhanced Graphics (EGA), IBM Personal System/2 Advanced Graphics (VGA)• Mouse (Optional): Mouse Systems, Microsoft and compatibles• Modem for Auto-Dialer (Optional): Hayes or compatible• Operating System: PC-DOS 2.0-4.0; MS-DOS 2.0-4.0• Software: Most PC-DOS and MS-DOS application programs; programs specific to Microsoft Windows 1.03-2.1, GEM 1.1-3.0, IBM TopView 1.1• Media: DESQview 2.0 is available on either 5-1/4" or 3-1/2" floppy diskette.

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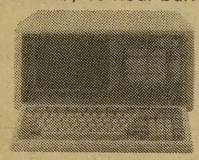

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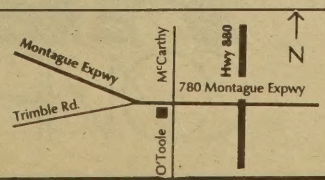

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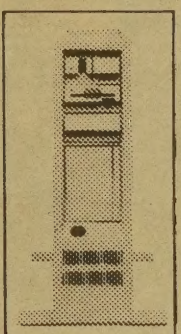

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Cover and contents photos: Patricia Leeds

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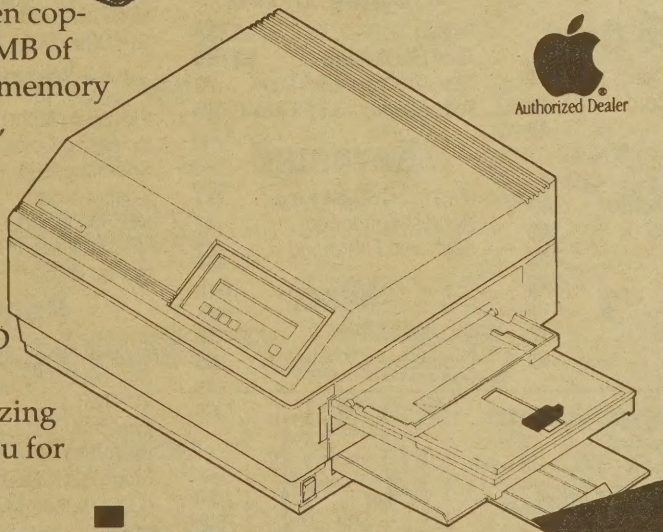

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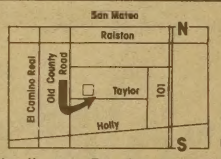

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CONTRIBUTING PHOTOGRAPHERS Ken James, Michael Jay, Pat Johnson, Jim Marshall, Ann Summa
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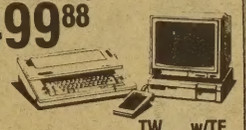

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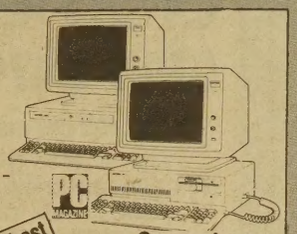

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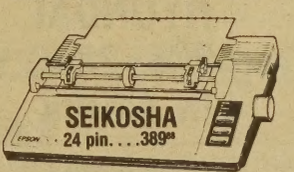

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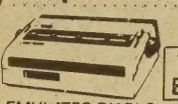

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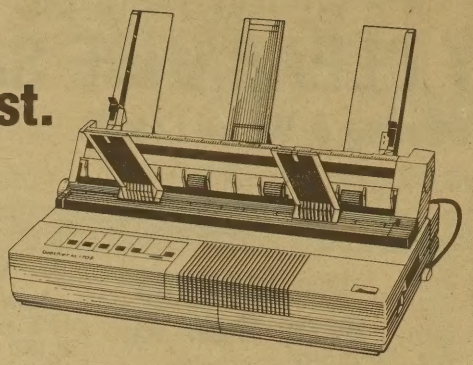

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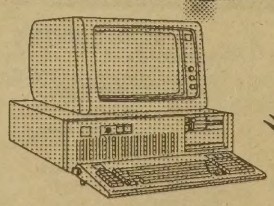

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Multi I/O card.....50
I/O Plus II card.....45
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Everex EGA Card.....120
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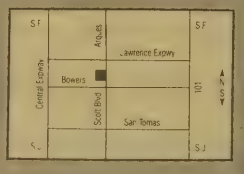

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September 21 Desktop Publishing With Ventura Seminar. San Francisco. Prolog Financial Systems. Call: (415) 441-3117.

September 21 Getting Started With WordPerfect Seminar. San Francisco. Prolog Financial Systems. Call: (415) 441-3117.

September 21 Developing Expert Systems For Financial Management Seminar. San Francisco. Prolog Financial Systems. Call: (415) 441-3117.

September 22-23 Time Line Workshop (Version 3.0). San Francisco. Contact Sherri Davis, Symantec-Breakthrough Software, (415) 898-1919.

September 22 How To Build Your Own XT/AT Compatible Computer. Fort Mason Center, San Francisco. Call: (415) 284-1024.

September 24 A Seminar On Music Visualization - Beyond MTV! San Francisco. Suite 3-D. Call: (415) 882-7063.

September 24 Computer Swap. Santa Clara County Fairgrounds, San Jose. Computer Swap America. (415) 366-9162.

September 24 Build An XT/AT & Learn To Use It Seminar. Foothill College Campus, Los Altos Hills. Foothill College. Call: Division Of Physical Sciences And Engineering, (415) 960-4488/4259.

September 24 Computer Show. Marin Civic Center. East West Computer Shows. Call: (415) 388-8893.

September 24 Bay Area Computer Swap. Alameda County Fairgrounds. Microshows. Call: 1-800-345-7389.

September 25 Computer Show. Sacramento Community Convention Center. East West Computer Shows. Call: (415) 288-8893.

September 26-30 3rd TCP/IP Interoperability Conference And Exhibition. Santa Clara. Advanced Computing Environments. Call: (408) 986-0700.

September 26-28 The Software Re-Engineering Symposium. Los Angeles. Digital Consulting, Inc. Call: (617) 470-3880.

September 26 MS Word Users Group Meeting: Hunter Jackson on Complex Documents With Multiple Divisions And Running Heads. Call: Bill West, (408) 356-8805.

September 26 Women's Special Interest Group Meeting: Managing Your Technical Staff With Donna August of Intelli Corp. Hewlett Packard, 5301 Stevens Creek Blvd., Santa Clara. Call: Rita Zokaei, (415) 574-8225.

September 27-28 Animation Presentation Techniques Seminar. San Francisco. MacroMind, Inc. Call: (312) 871-0987.

September 27-30 Fiber Optic Communication Systems: Design Tools & Techniques Course. San Francisco. Integrated Computer Systems. Call John Valenti, 1-800-421-8166.

September 28-30 PC Networking: Hands-on Workshop. Palo Alto. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

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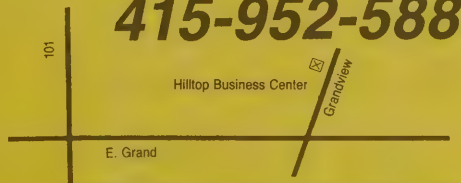

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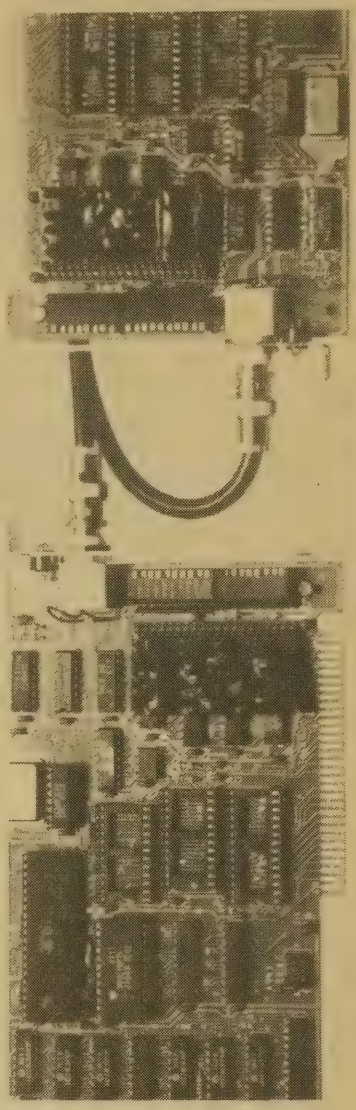

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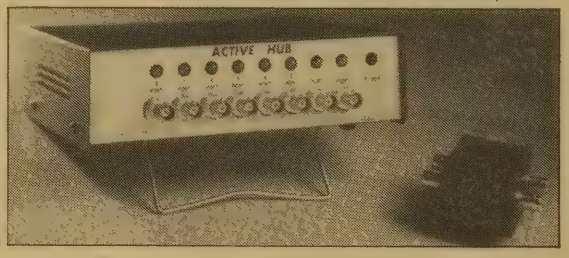

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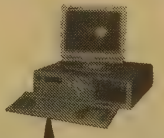

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September 30 Samna National Users Group Meeting. Atlanta, Georgia. Samna Corporation. Call: Leslie Raith, (404) 373-8042.

October 1-2 Computer Show. Oakland Coliseum. East West Computer Shows. Call: (415) 388-8893.

October 2-6 SC Japan '88: International Superconductor Applications Symposium And Tour. Japan. Superconductor Applications Association. Call: 1-800-854-8263.

October 3 Introduction To DOS Seminar. Santa Clara. Silicon Valley Computer Society. Call: Jon Kennedy, (408) 226-0507.

October 3-6 Basic Project Management: Planning, Scheduling And Control Seminar. San Francisco. American Management Association. Call: Robert Newton, (212) 903-7936.

October 4-7 Image Processing & Machine Vision Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

October 5 Networks-Wide Area And Fiber Optics, ProTel Meeting. Foster City. ProTel. Call: Debra K. Birkholz, (415) 964-4456.

October 6 Time Line 2.0 Workshop. Symantec Corporation. Call: Sherri Davis, (415) 898-1919.

October 7 Time Line 3.0 Transition Workshop. Symantec Corporation. Call: Sherri Davis, (415) 898-1919.

October 7-9 AMI EXPO. Los Angeles. United Exposition Service Co. Call: 1-800-AMIGA for information.

October 8 De Anza Computer Mart. De Anza College Campus Center, Cupertino. De Anza College. Call: (408) 996-4350.

October 10-11 Time Line 3.0 New Users Workshop. Symantec Corporation. Call: Sherri Davis, (415) 898-1919.

October 11-13 Computer Integrated Manufacturing Exhibition. Bordeaux, France. Cimex International. Call: Pierre Croutte or Catherine Darque, 56.79.50.63.

October 15 Computer Show. Solano County Fairgrounds. East West Computer Shows. Call: (415) 388-8893.

October 15 Hard Disk 1 Seminar. Santa Clara. Silicon Valley Computer Society. Call: (408) 226-0507.

October 17 Hard Disk 2 Seminar. Santa Clara. Silicon Valley Computer Society. Call: (408) 226-0507.

October 17-21 The 1988 Electronic Printer And Publishing Conference Series. San Jose. CAP International. Call: Jean O'Toole or Kristin Fischer, (617) 982-9500.

October 18 dBase III+ Seminar. Sacramento. American Management Association. Call: (212) 903-7936.

October 18-19 Borland Professional Series Seminar (Quattro, Paradox, SideKick+, Sprint). Dia-

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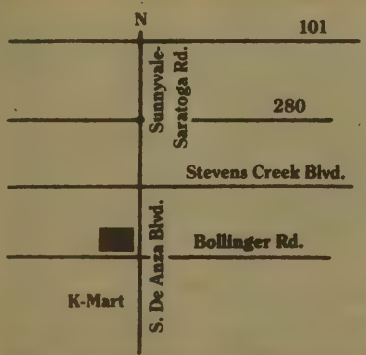

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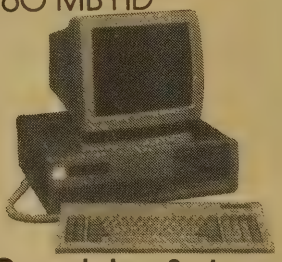

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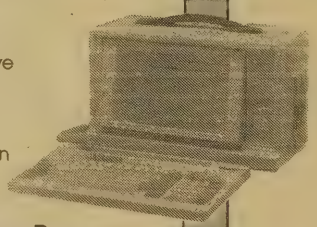

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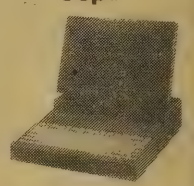

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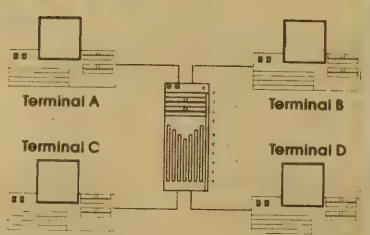

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mond Software, Oakland. Diamond Software. Call: (415) 430-3095.

October 18-21 Local Area Networks: Implementation & Configuration Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

October 19 Developing Expert Systems For Financial Management Seminar. San Francisco. Prolog Financial Systems. Call: (415) 441-3117.

October 21 RevFaire '88. Hyatt Regency-Embarcadero, San Francisco. Bay Area Revelation Users Group. Call: Margaret Steyer, (415) 986-1717.

October 22 Hard Disk Backup 1 Seminar. Santa Clara. Silicon Valley Computer Society. Call: (408) 226-0507.

October 22 Shop Till Ya Drop Computer Swap. Oakland Convention Center. Microshows. Call: 1-800-433-7469.

October 24 MS Word Users Group Meeting: Linda Cavenaugh of Softcraft will speak. Call: (408) 356-8805.

October 29 Hard Disk Backup 2 Seminar. Santa Clara. Silicon Valley Computer Society. Call: (408) 226-0507.

October 29 Computer Show. Luther Burbank Center, Santa Rosa. East West Computer Show. Call: (415) 388-8893.

October 29 Shop Till Ya Drop Computer Swap. Alameda County Fairgrounds. Microshows. Call: 1-800-433-7469.

October 30-November 2 From Vision To Payoff: Breakthroughs To Growth, IIA's 20th Annual Convention And Exhibition. Omni-Shoreham, Washington, DC. Information Industry Association. Call: Michael Atkin, (202) 639-8262.

November 1-3 Macintosh Business Conference & Exposition. Anaheim. Apple Computer, Inc. Call: 1-800-262-3378.

November 2 How To Automate Your Business Accounting Seminar. J.C. Luckrich & Co., CPAs, 284 Connecticut St., San Francisco. J.C. Lukrich & Co. Call: Bryan, (415) 864-6770.

November 3 DOS Batch Files 1 Seminar. Santa Clara. Silicon Valley Computer Society. Call: (408) 226-0507.

November 4 DOS Batch Files 2 Seminar. Santa Clara. Silicon Valley Computer Society. Call: (408) 226-0507.

November 10 How To Automate Your Business Accounting Seminar. J.C. Luckrich & Co., CPAs, 284 Connecticut St., San Francisco. J.C. Lukrich & Co. Call: (415) 864-6770.

November 14-16 Strategies For Implementing Distributed Processing Conference. Ramada Renaissance Hotel, Washington D.C. International Data Corporation. Call: Marji Grubic, (703) 893-0833.

November 14-18 COMDEX/Fall Conference And Exposition. Las Vegas. The Interface Group, Inc. Call: Walter D. Heithaus, (617) 449-6600.

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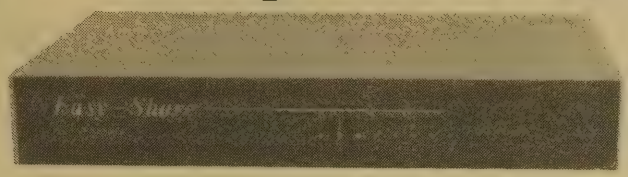

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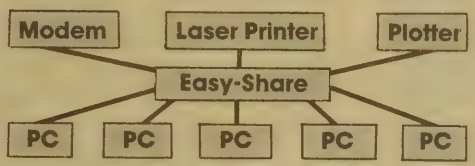

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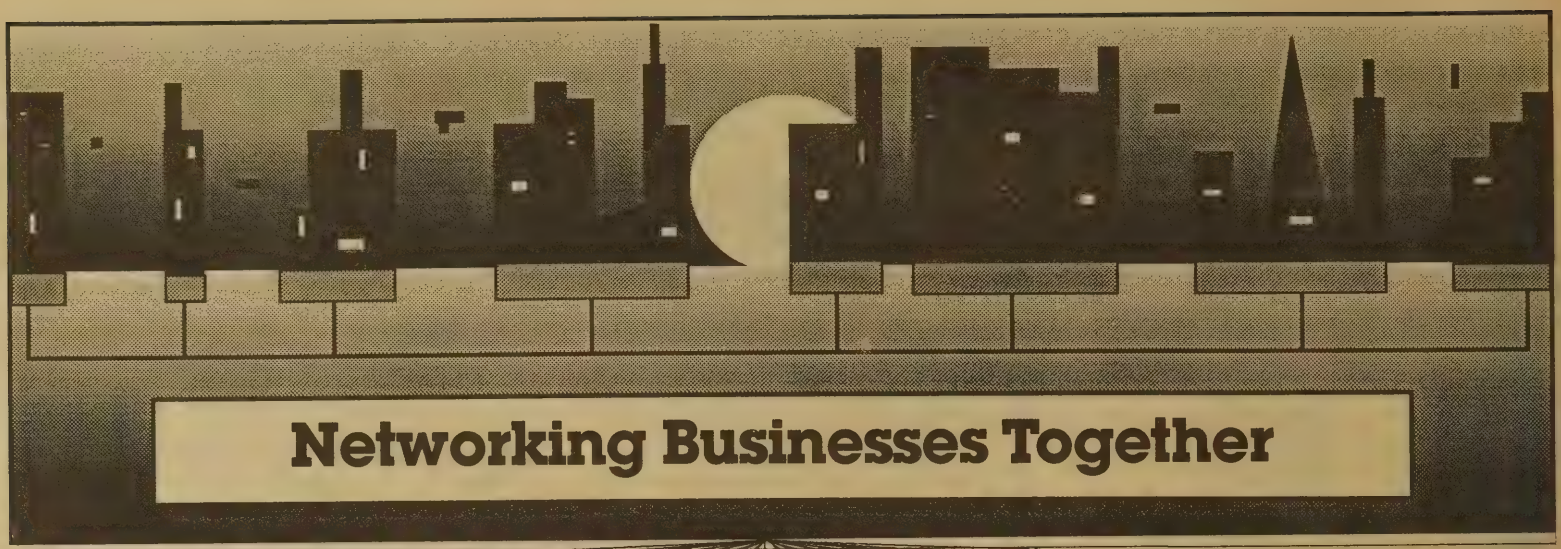

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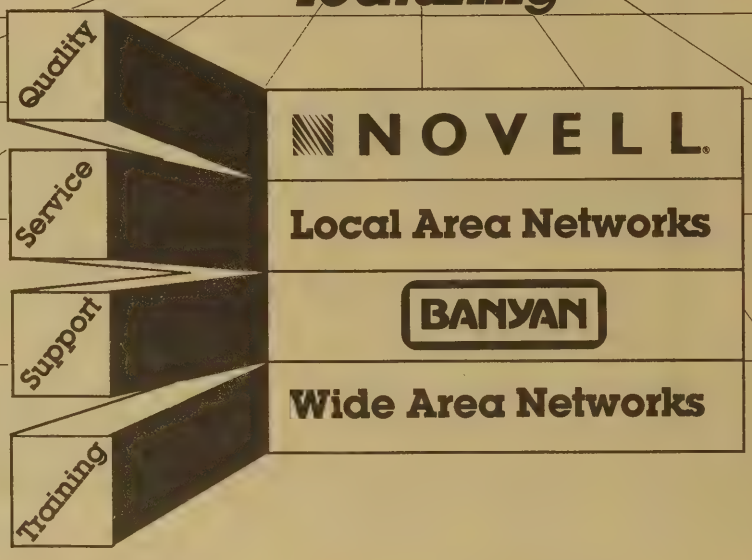

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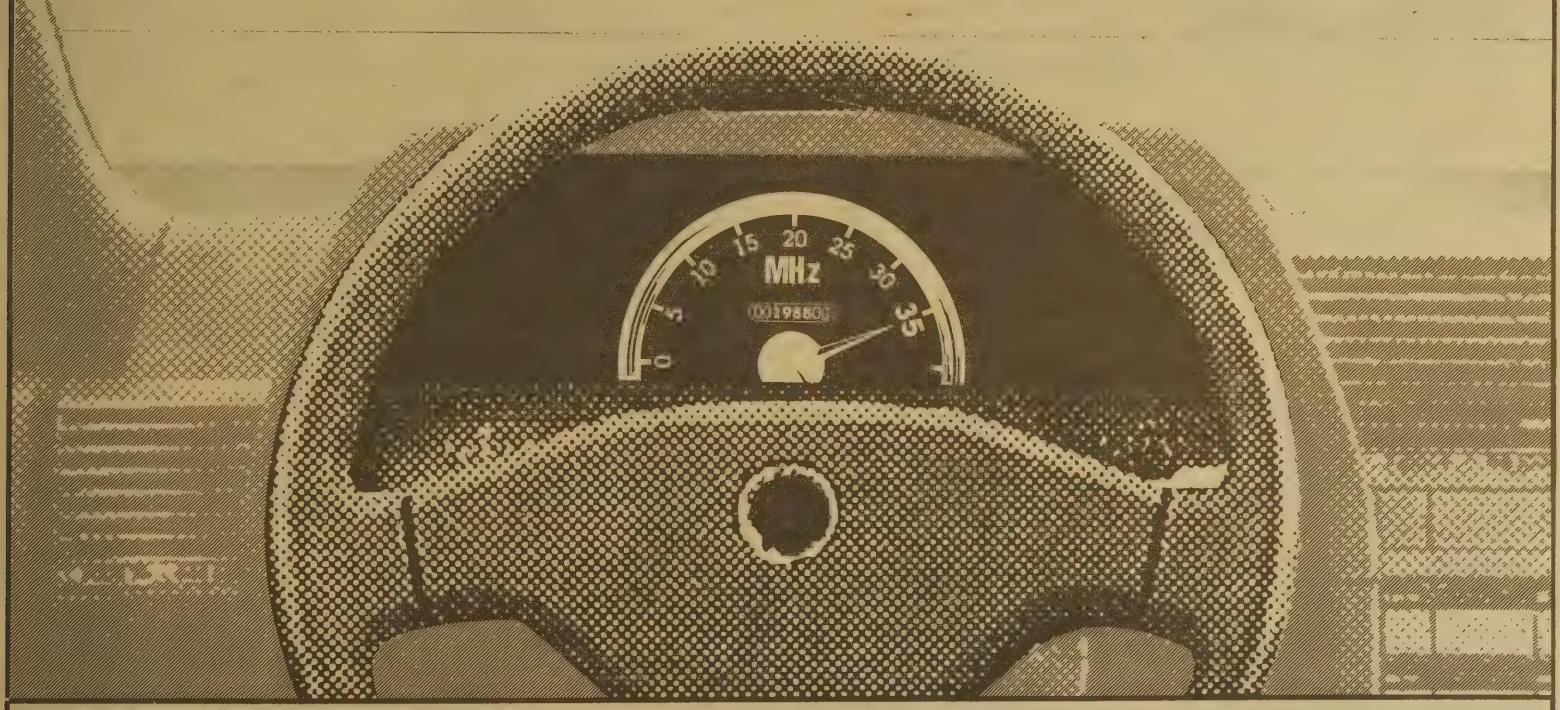

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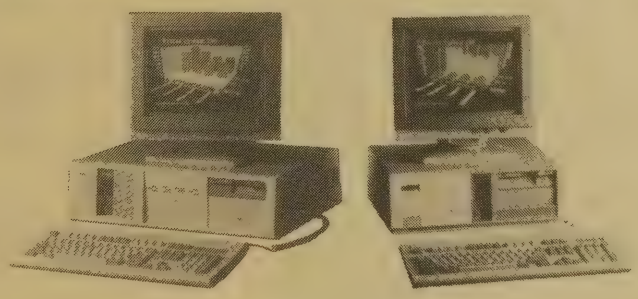

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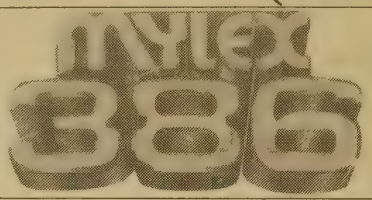

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November 28 How To Automate Your Business Accounting Seminar. J.C. Luckrich & Co., CPAs, 284 Connecticut St., San Francisco. J.C. Lukrich & Co. Call: (415) 864-6770.

November 28 MS Word Users Group Meeting: Word, Windows, Presentation Manager, OS/2 Demo. Call: (408) 356-8805.

November 29-December 2 OSI Product Integration Conference. McLean Hilton, McLean, Virginia. Advanced Computing Environments. Call: Wendy C. Gibson, (415) 941-3399.

December 11 Computer Show. Marin Civic Center. East West Computer Shows. Call: (415) 388-8893.

December 13-16 Microprocessor Troubleshooting: Hands-on Tools & Techniques Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

January 11-13 International Superconductor Applications Convention: SC Global '89. San Francisco. Superconductor Applications Association. Call: (714) 586-8727.

January 17-20 Effective Skills For Technical Managers Course. San Francisco. Integrated Computer Systems. Call: 1-800-421-8166.

February 5-7 SAFECON-Software And Firmware CONference. San Jose. MultiDynamics, Inc. Call: Anne Weber, (714) 669-1201.

February 14-17 Software Development '89 Conference. Burlingame. Miller Freeman Publications. Call: KoAnn Tingley, (415) 995-2471.

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*As a community service, **MicroTimes** lists trade shows, seminars, and other special events in the Calendar of Events free of charge on a space-available basis. To improve the likelihood of your listing's timely inclusion, please make sure we have the necessary information no later than the first of the month two months before the cover date of the issue in which you'd like it to appear (i.e. the deadline for the March issue, on the street in February is January 1). Send to: MicroTimes Calendar of Events, 5951 Canning St., Oaklands, CA 94609.*

News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.

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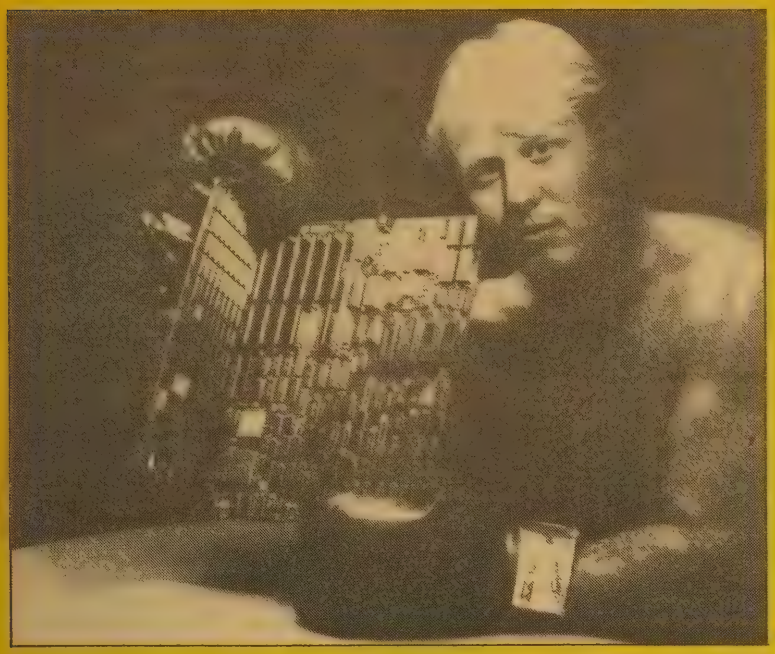

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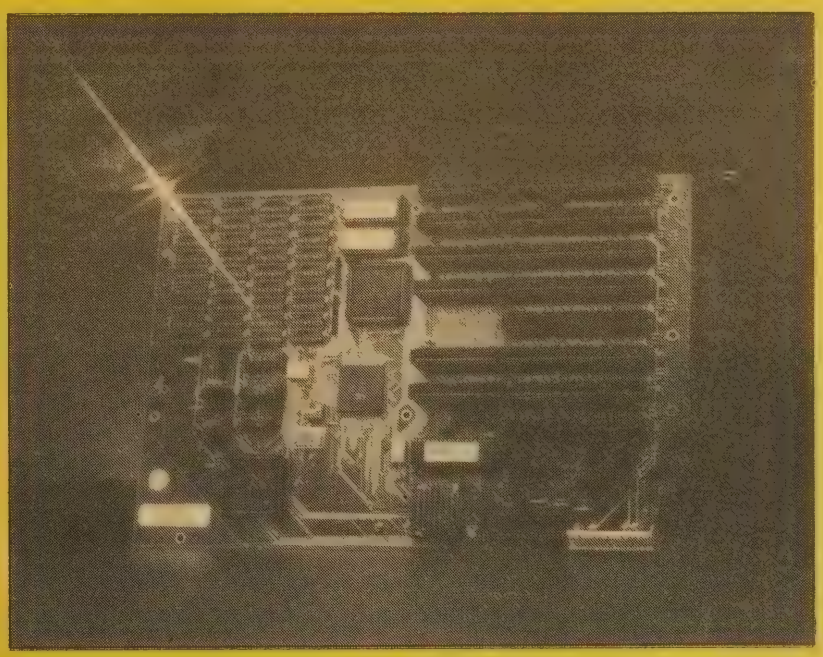

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NEWS AND ANALYSIS

BY PAUL HOFFMAN

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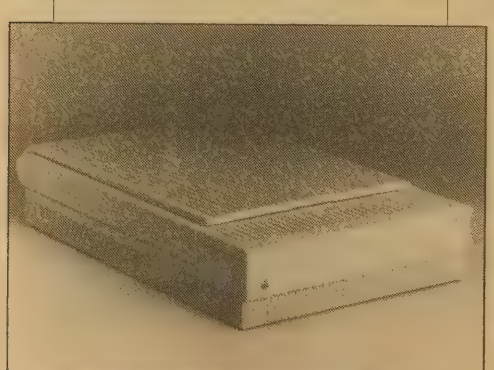


Apple introduces new flatbed scanner. See page 26.

New Intel/DCA Communications Standard .. 28

Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on USENET (phoffman@well) and MCI Mail (264-3171). He also writes popular microcomputer books.

Chip Consortium Picks Intel's Noyce As CEO

Robert Noyce, one of the best-known founders of the chip-making industry, was chosen to become the chief executive officer of the US government's Sematech chip research group. Noyce was one of the founders of Intel, and he still remains the vice chairman of Intel's board of directors.

Sematech had gotten off to a rocky start, unable to find a CEO after almost a year of searching; Noyce turned down the position earlier. The search committee also announced that Paul Castrucci, head of production at IBM's Vermont semiconductor plant, would be the chief of operations for Sematech. Congress has already promised to give Sematech $100 million for its first year of operation, and was getting worried about not having a high-profile leader for the group.

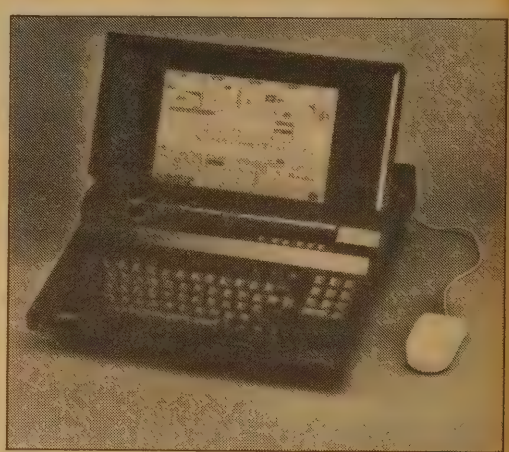
Sematech is designed to help the American chip manufacturers by encouraging them to combine and coordinate research and development of new chips and better production techniques. The major reason for its founding was to counter the Japanese manufacturers, who often publish their research and production results and have close ties to governmental overseeing groups. American manufacturers are much more secretive about their work, and thus often do not know what their competitors are doing.

Sematech will have to convince its members to divulge more information and to participate in group work that will ideally benefit all of them. Since this form of cooperation is much more common in Japanese business than in American business, many critics are skeptical about Sematech's potential for success. Having a well-known leader like Noyce will certainly help get the group publicity and more funding from Congress.

Yamaha Premiers High-Powered Portable Music Computer

Bridging the distant worlds of portable MS-DOS computing and professional music production, Yamaha has introduced the C1 computer specifically for musicians and music industry professionals. The computer resembles many of the other Japanese portables, except that it has two slider controls on the left side of the keyboard and more ports on the back side than have previously been seen in a standard computer. Internally, though, it has many features needed for a musical computer, including MIDI and SMPTE connectors, music fonts in ROM, 1MB RAM standard and full MS-DOS compatibility. The 80286-based computer comes in two standard configurations: with two 3.5 inch floppies or with a 20 Mb hard disk.

The music portions of the C1 take the best of the add-ons that have become available for MS-DOS, Atari, Commodore Amiga and Apple Macintosh computers in the last few years. There are eleven MIDI jacks (eight out, two in and one through) for control of a large number of MIDI devices, as well as SMPTE in and out jacks for precise timing. The computer also has a music-specific DMA controller. The computer's high-resolution (640 by 400) screen allows the user to display and create music on the screen. The standard keyboard also has the musical notation on it so that third-party software can use a standard interface. The computer also has an external monitor jack as well as a parallel and two serial ports.



Yamaha hopes this music computer will find its way into music stores and computer outlets alike.

The C1 comes with Yamaha's MIDI Monitor software, which lets you control the MIDI ports on the computer, and the Bulk Manager, which lets you store and retrieve bulk MIDI data. Yamaha also announced that its MIDI sequencing software is available for the C1. Many software developers who had developed music software for add-in boards on other computers also announced the availability of their editing and sampling software for the C1. Yamaha hopes that the computer and software will be available in music stores which currently sell Yamaha instruments and computer stores hoping to attract the music industry. (The C1 with two drives costs $2999; the model with the 20Mb h rd disk costs $3999.)

Microsoft Makes OS/2 Available For Mach 20 Board

Despite currently weak demand for OS/2, Microsoft made it available for its Mach 20 add-in board for the PC. The Mach 20, like the add-in boards from numerous manufacturers, allows an 8088- or 8086-

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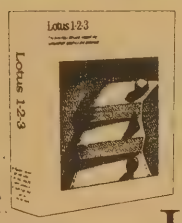

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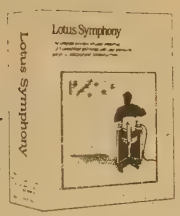

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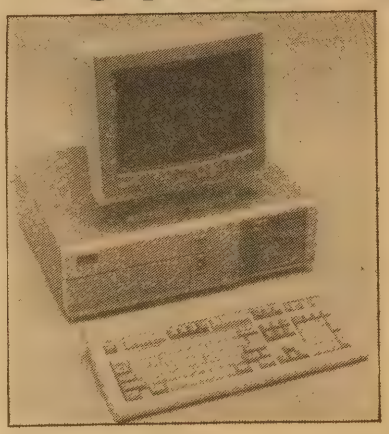

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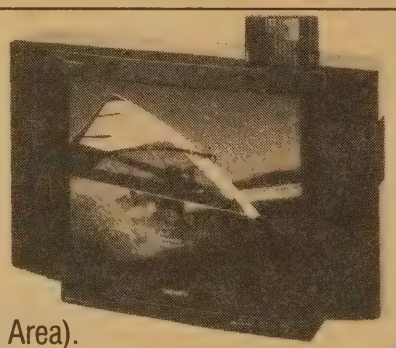

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NEWS AND ANALYSIS

based PC to run software that requires an 80286.

By making OS/2 available for the Mach 20 board, Microsoft hopes that users of the board will move to OS/2. However, since OS/2 requires much more memory than can be used in a PC, OS/2 users will have to add memory with Microsoft's Mach 20 Memory Plus option, which is relatively expensive. The minimum memory requirement for OS/2 on the Mach 20 is 1.5Mb with 2Mb recommended, and much more necessary for most OS/2 programs.

Peter Norton Acquires Dan Bricklin's Demo II

Dan Bricklin's popular *Demo II* program, a program prototyping system, has been sold to Peter Norton Computing. Software Garden, Bricklin's company, sold all rights to the highly successful Norton company so that it could concentrate on future products. Norton will take over both the marketing and development of *Demo II*.

Many of Norton's best selling programs are to other software developers, where *Demo II* is already well entrenched. Bricklin was one of the founders of the microcomputer industry, having been a coauthor of *Visicalc* in the late 1970s. After the many ups and downs of running a large company, he founded Software Garden, which he insists will remain small. Norton has grown his company from a one-person operation to one of the largest utility companies in the PC business. Norton Computing, 213/319-2000.

Open Software Foundation Adds Six New Members

AT&T's potential rival in the UNIX market, the Open Software Foundation (OSF), added six new members to its roster with the addition of hardware and software manufacturers from around the world.

The new hardware manufacturers are Altos Computer Systems, Stratus Computer and Toshiba. Toshiba became one of the first Japanese members of OSF at a time when many people question whether OSF is courting the Japanese strongly enough. Other major Japanese UNIX vendors have so far stayed away from OSF, fearing that it is being too strongly led by IBM. The new OSF software manufacturers are Adobe, Mitre and Tecsiel of Italy.

OSF also recently announced that it would do no high-level research of its own, but that it would instead farm out research projects to major universities. This will hopefully prevent any one company from stalling a major research project, although many smaller companies who are not members feel that their membership fees will profit the larger companies more than the smaller ones. At this point, the lines are drawn with AT&T, Sun and Unisys on one side, OSF members on another, and the uncommitted companies in the middle.

Unisys Buys Convergent For Cash and Stock

Computer giant Unisys bought one of its major manufacturing partners, Convergent, Inc. in a move that will strengthen Unisys' micro- and minicomputer manufacturing and design capabilities. Convergent, well respected for its networking and high-performance microcomputers, will become a wholly-owned subsidiary.

In the joint announcement, Convergent chairman Paul Ely assured its OEM customers, many of whom are competitors of Unisys, that it will continue to supply them with the same computers and technologies that it has in the past. Ely also assured Convergent employees that the acquisition will not change the environment at Convergent and that the headquarters for the company would remain in San Jose, California.

The purchase caused some questions to be raised in the industry, especially with respect to how this would affect Unisys' line of microcomputers, mostly designed by Sperry (who merged with Burroughs to become Unisys). The announcement did not make clear whether the Convergent technologies would mostly be used for sale to other vendors, as Convergent does now, or would be also used in-house at Unisys. Before the buyout, Unisys was responsible for about 20% of Convergent's cash flow.

NCGA Calls For Computer Animation Contest Entries

The National Computer Graphics Association is seeking entries for its fourth annual computer animation competition, to be held at the next NCGA annual convention in April 1989, in Philadelphia; the deadline for submission is December 1.

The NCGA competition usually brings out the most unusual and powerful players in the computer animation field. The requirements are that the animation be produced between December 1, 1987 and December 1, 1988, and that the animation be produced only on a digital computer. The six categories

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NEWS AND ANALYSIS

of judging are: broadcast computer graphics, television commercials, corporate presentations, technology and computer graphics research, short films and videos and academic (student/faculty). The short films and video competition is usually the stiffest, with entries from most manufacturers as well as from the top professional animation companies.

The animation will be judged both on technical quality and creative use of computer graphics, and clips from the winning entries (as well as many of the runners-up) will be shown throughout the NCGA convention. For more information, contact NCGA at 2722 Merrilee Drive, Suite 200, Fairfax, VA, 22031; 800/225-6242.

Fujitsu To Sell Sun Products in Japan

The largest Japanese computer manufacturer, Fujitsu, has agreed to sell over a quarter of a billion dollars worth of Sun workstations and file servers in Japan over then next five years. The agreement allows Fujitsu to package the computers with its own label and to enhance them before sale. Sun expects that the agreement will account for more than 15,000 systems sold in the Japanese and other markets. The agreement covers Sun-3 and Sun-4 products, as well as future technologies. Fujitsu is already a major UNIX vendor in Japan, and feels that the addition of the Sun line will expand their market.

Microsoft Enters PC Electronic Mail Market

After first testing the Macintosh electronic mail market, Microsoft has decided to enter the PC communications market. Microsoft *Mail* for PCs allows any PCs connected to an AppleTalk network (such as those supported by Apple and TOPS) to send and receive electronic mail. The package can, of course, also transfer messages to and from Macintoshes on the network that use Microsoft's electronic mail package for the Mac. The new product will be able to transmit both text and files so that users can use it instead of remote access to each other's disks in a secure environment.

Apple Suit Judge Has Son Working At Hewlett-Packard

Apple has requested that its lawsuit against Microsoft and Hewlett-Packard be reassigned to a new judge after it found out that U.S. District Judge Robert Aguilar's son works for Hewlett-Packard. The discovery came during another case before the judge that involved Hewlett-Packard, in which the judge refused to remove himself from the case. Apple feels that the judge cannot be impartial with his son working for one of the defendants.

Even if the judge stays on the case, it will be a long time until the case is heard. The court clerk assigned the case to begin on August 14, 1989. Even though none of the parties in the case asked for a long discovery period, the closing date for discovery was set at April 3, 1989.

Macworld Expo Brings Out Macintosh and Apple News

The August Macworld Expo in Boston brought huge amounts of Macintosh publicity out of the woodwork during what is normally a very slow time in the computer industry. New products for the Macintosh were announced by many major vendors, and Apple kept its promise of no new Macintoshes, although it did announce a new configuration for the Mac II. Since the publicity mill got very crowded as the Macworld Expo approached, many vendors preannounced their products or, in some cases, waited until after the show. Among the announcements:

•Apple introduced the Apple Scanner for reading high-resolution images and text into the Mac. The full-page flatbed scanner and associated software can read images into picture files or directly into *HyperCard* stacks. The scanner, which costs $1799, joins similar products from many other companies in the Mac market. At the same time, Caere Corporation announced its *OmniPage* software that works with the Apple Scanner to read almost any type of text from any page. The software vastly reduces the limitations on reading from typeset material, according to the company. *OmniPage* has versions for both the Mac ($795) and IBM PC ($1995).

•Apple also announced a minor new configuration for the Mac II. The Macintosh II 4/40 comes with four megabytes of RAM and a 40 Mb hard disk, and has a list price of $7269. Apple also announced a 4-Mb memory expansion kit for the Mac II, costing $2399.

•General Computer (now called GCC Technologies) showed its lightweight WriteMove portable inkjet printer for the Macintosh. The WriteMove weighs only three pounds and is smaller than a

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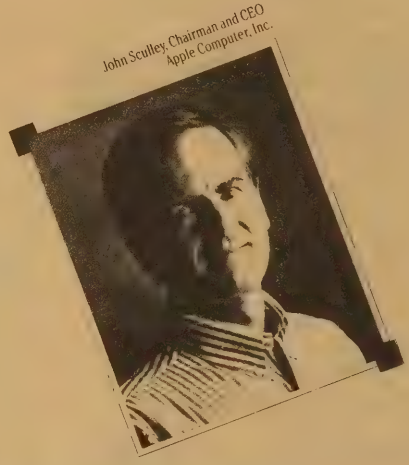

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notebook; it can easily fit inside of many Macintosh carrying cases. It can print at 192 dots per inch, making it higher resolution than the standard Apple ImageWriter, and it is significantly quieter than the ImageWriter. The printer uses GCC's high-resolution font and image printer driver, similar to the one in GCC's inexpensive Personal LaserPrinter. The WriteMove costs $699. GCC also announced a 150 Mb internal hard disk for the Mac II, and officially announced its name change to GCC Technologies.

•Shiva Corporation, known for its NetModem, which can be shared on an AppleTalk network, announced that the Cole Gilburne venture capital firm had bought a substantial part of the company. Cole Gilburne principal Nat Goldhaber, founder of TOPS (which he sold to Sun), will take a seat on the Shiva board. Cole Gilburne sees a large market for shared network devices and said that Shiva had the technology to create many new products in that market. Shiva also makes the NetSerial interface for attaching any serial device to an AppleTalk network.

•Also on the acquisition front, Dow Jones announced that it has bought 19% of Solutions, Inc., the manufacturer of *SmartScrap* and *The Clipper*. Dow Jones has been taking the microcomputer market more seriously in the last few years, and it has published some of the non-Macintosh software produced by Solutions.

•Aldus broke into the presentation market with *Persuasion*. *Persuasion* will compete with Microsoft's *PowerPoint* and Symantec's *MORE* packages in the rapidly-growing market for slide and presentation preparation packages.

Persuasion contains an outliner that lets you quickly convert the outline for a speech into a full set of color slides or overheads. It also contains a business charting and graphing package, as well as a slide layout and handout generator. *Persuasion* can even run the slide show on the screen for people who do not have the output devices for producing overheads or slides. It can import text and graphics from all major Macintosh applications.

•Microsoft continued its onslaught of new releases of Macintosh software by announcing Microsoft *Works* version 2 and *QuickBASIC* for the Macintosh. *Works*, the integrated word processor and spreadsheet which is currently one of the best-selling packages for the Mac, is substantially improved in version 2, which will be released in October. The new features include macros, an integrated spelling checker, basic drawing tools for embellishing documents, and a larger work area in the spreadsheet. *Works* will also fully support color on the Mac II and have a print preview capability. *QuickBASIC* is essentially an integration of Microsoft's BASIC interpreter and compiler packages. It is aimed at people who are developing programs and has a new interface to help manage program development. It also supports color and the 68881 coprocessor on the Mac II.

•Network Innovations, the shared database company purchased by Apple earlier this year, made the specifications to its CL/1 language available to the public. Software manufacturers who want to be compatible with CL1 data servers can now use the connectivity language to hook their applications together with other CL/1-compatible applications, even those running on different hardware. Apple intends CL/1 to be one of the major links between the Macintosh and DEC VAX computers.

Network Innovations also announced that it would work with database giant Oracle to market a CL/1 facility on Oracle for the Macintosh. Currently, Oracle is the major SQL database management system for the Mac, and adding CL/1 capabilities will allow users from other systems to access Oracle databases transparently.

•Oracle also announced a *HyperCard* interface for its database management system. The front end lets you access and update Oracle databases through any *HyperCard* stacks. A programmer can put SQL statements in a *HyperCard* stack and access data as if it were part of the stack.

•Claris announced a new computer-aided design package, *Claris CAD*. The $799 software is aimed at the upper end of the market (such as architects and drafters). The package will not ship until December.

•Acius quietly told *4th Dimension* users that the previously-announced revision of the database system, version 1.1, had been cancelled. The next major release of *4th Dimension* is not expected until the end of this year or early 1989, according to the company. *4th Dimension*, although flashier than its competitors, is significantly slower and less stable for programming, and many users had hoped to be able to get the revision at the Macworld Expo.

•Apple and DEC gave only a little more information to their developers about their much-heralded joint technology announcement. The companies said that toolkits for hooking Macintosh and VAX systems together will not be available for another year.

Many companies came away from the meeting frustrated over the long delay in finalizing the structure for the supported interchange of data, and said that many would produce their own products well before next year and have to later revise them to fit the standard. While Apple and DEC talked about "seamless integrated environments," many developers said that, in fact, very little had been decided since the announcement of the joint venture eight months ago. They were even more dismayed when Apple announced that electronic mail interchange would come more than a year from now. The long delays will probably help the current players in the market, but certainly will make it more difficult for Macintosh users to hook into their DEC systems.

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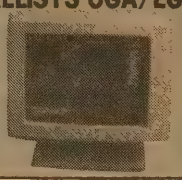

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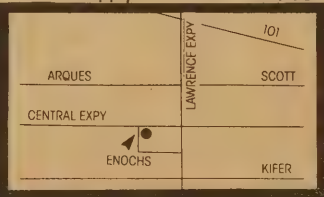

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NEWS AND ANALYSIS

Vendors Support New Intel/ DCA Communications Spec

Intel and DCA's new Communicating Applications Specification (CAS) garnered immediate support from major communications hardware and software vendors, indicating that it will be the wave of the future for message and picture transmission between personal computers. The CAS is a public domain specification that is freely available to anyone interested in conforming to it. Programs that follow CAS can send information to CAS hardware without having to worry about controlling a modem. Hardware that follows CAS can communicate with all other CAS hardware, as well as FAX Group III machines. This will greatly reduce the burden on the user for telecommunicating.

CAS comes at a time when the American FAX market is beginning to catch up with the already-established markets in Asia and Europe. Any document that can be sent to a printer can just as easily be sent to CAS-compliant FAX hardware. Although the initial specification only covers FAX-like hardware, future extensions will allow programs to transmit information over standard modems as well as network connections using the same protocols.

Intel compares the usefulness of the CAS standard for communications to that of the EMS standard for expanded memory. CAS makes it easy for a software company to include support for sending data through CAS as was seen at the press conference, where Microsoft, Symantec, Ashton-Tate, Borland, Crosstalk and Wordtech announced immediate or imminent software support for CAS hardware. Novell also announced that its network hardware and software will support CAS in the future.

The only hardware that currently supports the CAS sending protocol is Intel's new Connection CoProcessor board for the PC, although many hardware manufacturers have indicated that they intend to enter the market this year. The Connection CoProcessor runs at about the same rate as a 9600 baud modem, and can send and receive standard Group III FAX messages. The board costs $995, and other manufacturers believe that their competing boards will initially cost between $500 and $800. If the CAS standard becomes as popular as many industry analysts believe, the CAS boards could drop in price to around $300 within two years, similar to the way that high-speed modem prices have continued to drop as they become more popular.

Intel and DCA are betting on the existing software base to make CAS boards attractive to users. Their hope is that, if it is as easy to send a message to another PC as it is to print it, users will be much more inclined to do so. To date, the major stumbling block for FAX boards has been that the PC must be kept on and ready to send or receive at all times for the FAX board to be useful. With CAS, the sending computer can determine that the receiving computer is not available and try again later, all without disturbing the user. Once you have told your application to send the output as a CAS message, you do not need to follow up on the progress unless you want to. Thus, many of the headaches of FAX use go away with the CAS standard. This in turn should spur sales of CAS hardware and make it become a solid standard in the industry.

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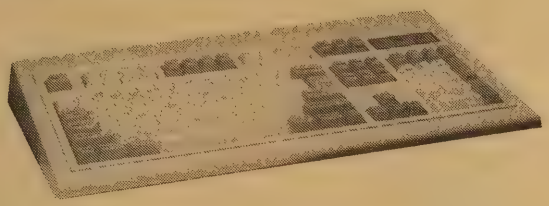

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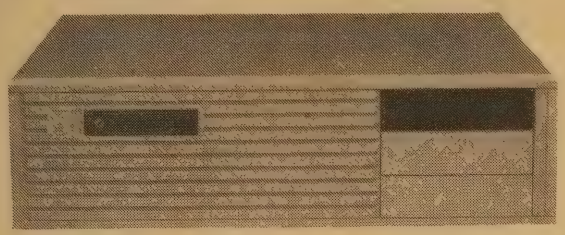

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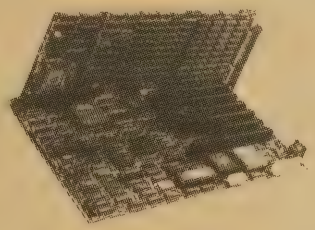

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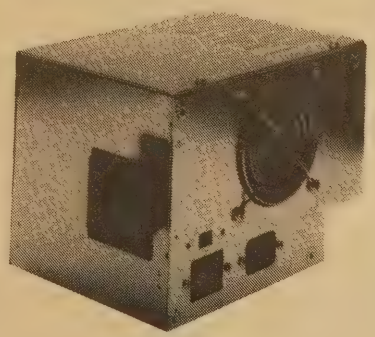

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3	3	RightWriter
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5	6	Lucid 3-D
8	7	dBFast
4	8	Turbo C
7	9	Turbo Pascal
12	10	Quattro
11	11	Flow Charting II
10	12	SideKick Plus
–	13	Timeslips
15	14	Org Plus
–	15	Peachtree

UTILITIES—MS-DOS

Last Month	September	
1	1	Norton Utilities Advanced
3	2	Direct Access
4	3	PC Tools
5	4	Fastback Plus
6	5	LapLink Plus
–	6	Norton Commander 2.0
2	7	XTree Professional
8	8	Disk Optimizer
9	9	SeeMORE
11	10	Norton Utilities 4.0
10	11	Sideways
12	12	Print Q
13	13	Q Dos II
14	14	COREfast
–	15	Automenu

MACINTOSH

Last Month	September	
1	1	Suitcase
5	2	Canvas
2	3	SuperPaint
4	4	QuicKeys
3	5	Beyond Dark Castle
–	6	Super Glue
–	7	SilverServer
–	8	Tempo II
6	9	CompuServe Navigator
–	10	Wet Paint
7	11	WordPerfect
8	12	Word Finder
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10	14	HyperDA
–	15	MacDraft

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Computers, Crime And The Constitution

An interview with computer law authority Donald G. Ingraham, Alameda County Assistant Attorney, on computer crime and the legal issues it raises.

In our July issue, contributing editor Brock Meeks wrote an eleventh-hour column in support of Assemblywoman Gwen Moore's ACA 36, which would have put on the November ballot an amendment to the California Constitution specifically extending Constitutional protections to electronic communications. The bill was under siege from the California Association of District Attorneys, whose sudden opposition to the bill Meeks attributed to the recent passage of a bill expanding wiretapping powers. "It's provided a certain smell of blood in the air," Meeks wrote, "and now they are going for the jugular; they want no Constitutional amendment that might, at some future date, prevent them from further increasing powers of the wiretap act."

After a good deal of last-minute political gamesmanship, attempts to rewrite the bill to address the concerns of the district attorneys, and lately-discovered objections from not just the CDAA but the occasional insurance company and credit bureau, ACA 36 died in the Senate Judiciary Committee without a vote. As Moore's consultant Bob Jacobson put it, "This is not the year for a Constitutional amendment in this area."

However, all parties to the issue agree that the legal ramifications of computer-based information, in the area of Constitutional protections among others, remain important and, to a considerable extent, undefined.

In response to Meeks's column, we received the following letter from Donald G. Ingraham, Alameda County Assistant District Attorney, contesting some of the column's statements and conclusions. Mr. Ingraham is generally regarded as the computer crime expert for the District Attorneys' Association, and we found his letter highly informative.

We called Mr. Ingraham and asked if he'd be willing to discuss the subject of computer law, particularly in the context of ACA 36 and similar legislation, more extensively. He graciously agreed, and the interview which follows his letter is the result.

The National Enquirer *format headline on Mr. Meeks'* Communications *column in your July issue was a real grabber, but I think it seriously distorts the problem posed by the proposed ACA 36. It certainly lacks objectivity and original sources and, as a long time reader, I respectfully offer the following in rebuttal.*

First, the factual background:

1. SB 1499 *will be the law as of January 1, 1989. It is the Presley-Felando-Eaves Wiretap Act of 1988 (1988 Laws, Chapter 111). It empowers the Presiding Judge of a Superior Court in California to authorize the interception of wire communications for a limited period, but only for the purpose of discovering evidence of significant drug dealing or the conspiracy to do so, where the unlawful substances concerned are in quantities greater than 10 gallons or 3 pounds, and only if the interception is requested by the personal oath or affirmation of the Attorney General, the Chief Assistant Attorney General, or the District Attorney, with full disclosure of the identity and reasoning of the applicant officer and a certificate of review by the chief of his or her agency. The process it establishes is far more detailed and demanding than for any other warrant, and the Legislature has required annual reports on all warrants issued under it. (I am enclosing a copy of the statute for you to review or reproduce as you wish).*

2. ACA 36 *is a proposal to amend the California Constitution by adding a line to language which establishes our right to be free from unreasonable search and seizure: "seizure and search," in California's terms.*

This right, like the IVth Amendment to the Constitution of the United States, is a limitation on the power of government. In California the equivalent "Declaration of Rights" is in the first article, where in the U.S. Constitution it was not added until two years later, as part of the Bill of Rights.

If it passes, California Constitution Article I section 13 will have the following bold face added:

Section 13: The right of the people to be secure in their persons, houses, papers, and effects, **including personal information contained in electronic information systems and computer data bases,** against unreasonable seizures and searches may not be violated; and a warrant may not issue except upon probable cause; supported by oath or affirmation, particularly describing the place to be searched and the persons and things to be seized.

(Caveat: this text is, of course, subject to change in the Legislative process. Anyone interested in facts as well as furor could find the current text in their local Law Library, most likely at the County Courthouse).

It will be noted by the observant that neither Constitution prohibits searches of persons, houses, papers, effects, or PCs: it simply prohibits unreasonable searches. And, as Mr. Meeks aptly notes, that is a matter of definition. The Constitution is interpreted and definitions are provided by our judicial system, and reviewed at length in a number of academic periodicals and published decisions. Any reader who takes Mr. Meeks' advice and calls a local DA for a definition of "freedom" or "unreasonable" will, I hope, be dealt with courteously, but firmly, and directed to the sources I have just cited. Your or our definition doesn't matter. That's the Court's job.

A brief pause: you now have the terms at issue, a guide to research, and a brief refresher on how our courts do their good work, admittedly on the level of High School Civics. The reader is free to stop at this point, but for those interested in seeing both sides of an issue, the following views of this Assistant D.A., being a computer user and having some experience in law and computers, might be of interest.

Why is the CDAA not supporting privacy in data? We are, and we were defending it eight years ago when many columnists were not. The CDAA is not opposed to your privacy; only to ACA 36.

Here's why:

First: Wouldn't ACA 36 establish privacy? ACA 36 would not establish absolute privacy in your data; at best, it would specifically recognize computer data as one of the aspects of privacy and property our law respects. On the assumption that laws, like programs, should have no unnecessary coding or language, the logical next question is whether your data is already recognized as deserving of legal protection. And, of course, it is. Every California or Federal case that has considered the issue has come to that result; no case has come to a different result. (It will be noticed that neither the U.S. nor California Constitutions specifically include "briefcase" or "automobile" or "hip pocket," but all are covered by "effects." No one in the field believes otherwise).

One of the ironies of Mr. Meeks' attack is that we DAs who eight years ago were urging a California Computer Crime Bill to protect data from thieves and diddlers were then labelled as gestapo types, and dire predictions were made that DAs would be checking everyone's computer to detect unauthorized access. The total inaccuracy of those seers could be testified to by anyone who has ever tried to get law enforcement assistance on a computer break-in or embezzlement or trade secret theft.

Today, concerned about the impact of ACA 36 on our ability to protect your property, we are lumped with the Soviets. Curious.

Second, even though we don't need ACA 36 to protect privacy, what could it hurt? It could hurt our ability to investigate crimes against your data, your system. Law is symbolically a two-sided affair: two scales, two sides to the sword. If your system is attacked, chances are that it will be attacked through another system. For law enforcement to investigate the crime and identify the person responsible, we have to be able to track down the computer, seize it, and search its log for evidence, just as if it were a gun, a drug laboratory, or any other instrument of a crime.

How could ACA 36 impede an investigation? Because it establishes computer and systems data as it does, as something other than "effect," it is likely that it will be urged as intending something

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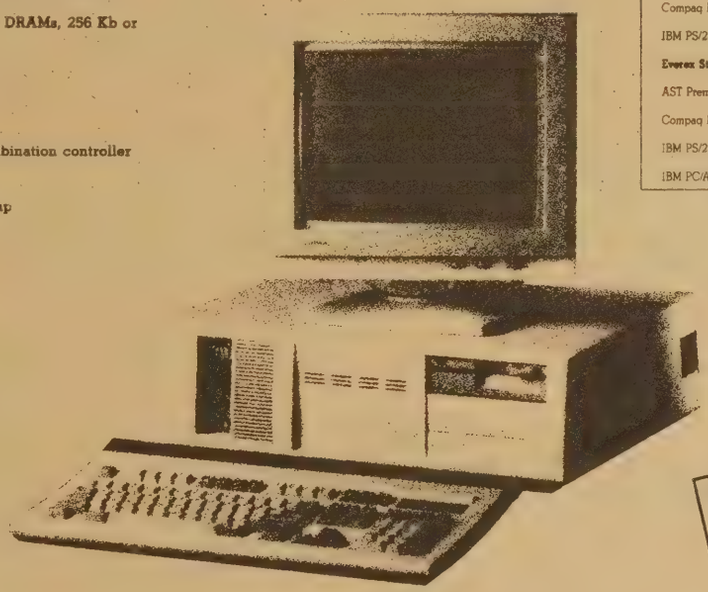
COMPATIBILITY TESTING RESULTS

The Everex System 386 has been evaluated by XXCAL, an independent third-party testing house. The test objective, as stated in XXCAL's report of February 16, 1988, was "to reveal any problems or inconsistencies relative to a selected group of off-the-shelf commercial software, networks, and peripheral products" on the Everex System 386. XXCAL's technicians "installed each application per documentation...[then] tested all functions, commands, and options directly related to a successful and thorough test of the product."

COMPETITIVE BENCHMARK TESTING RESULTS

Based on in-house testing, Everex Computer Systems Division has compiled the following benchmark test results.

Computer System	MIPS	Landmark	Norton SI Advanced
Everex Step 386/20	**4.91**	**35.0**	**24.3**
Compaq Deskpro 386/20	4.59	34.5	24.2
Everex Step 386/16	**3.93**	**27.3**	**19.5**
Everex Step 286/16	**3.27**	**21.4**	**18.4**
AST Premium 386/20	3.04	20.0	21.0
Wyse 386/16	2.98	20.6	17.6
Acer 386/16	2.99	20.6	16.2
Compaq Deskpro 386/16	2.90	20.0	17.6
IBM PS/2 Model 80, 16MHz	2.87	20.0	17.6
Everex Step 286/12	**2.45**	**15.9**	**13.7**
AST Premium 286/10	2.02	13.0	11.1
Compaq Deskpro 286/12	1.69	11.7	11.5
IBM PS/2 Models 50, 60	1.58	9.8	9.8
IBM PC/AT 8MHz	0.9	5.0	7



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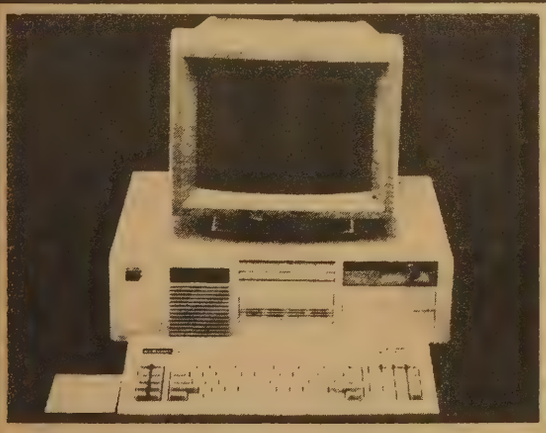

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3F 386 System

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different than was already there. Otherwise, why change it? It would probably be argued by the lawyers for the persons accused of the computer-related crime that the usual search warrant was not adequate, or the Constitution would not have been amended. (Contrary to popular paranoia, Judges and Legislators do try to meet the needs of the People; so do DAs.) What different rules would apply to these warrants are not in ACA 36 or anywhere else, so that if the Courts conclude that ACA 36 was not an idle act, and was intended to change the rules, the question what those rules are is being left to the Courts.

If ACA 36 were just another law, the problem would be less because there is ample Federal precedent to work from and follow. But it isn't. It is a Constitutional Amendment. The people of California decided in 1982 that they didn't want our Courts to have a free hand on "independent state grounds" to exclude evidence from trials, but wanted us to follow the law of the United States. That was Proposition 8 of that year, also a Constitutional Amendment. ACA 36, if enacted, would arguably override that uniformity insofar as data systems are concerned. The operative word here is "override": with what it would be replaced neither Assemblywoman Moore, Bob Jacobsen, John Coate, Brock Meeks nor I have any idea.

Mr. Meeks suggests that the CDAA has a "secret agenda." (If so, I assure you I didn't get a copy.) As he has introduced the question of unrevealed motives, perhaps he could address my question why, if particular recognition is needed, it has to be by sweeping Constitutional Amendment rather than by statute? There are existing statutes that give particular protection to records of health care providers, attorneys, the telephone companies, and financial institutions. Why go the costlier route of Constitutional amendment if this is purely cosmetic?

Third, I am concerned that at least some advocates of the proposal, of whom I take it Mr. Meeks is typical, are urging it not by presenting facts but by promoting fog and fear. In extended correspondence with Assemblywoman Moore's consultant, Bob Jacobson, I was impressed by his openness and willingness to discuss problems. A wholly professional attitude, with which one can disagree without disparagement and innuendo. Blather about "Sacramento insiders," DEA "roach" raids, and the extremely narrow drug dealer wiretap interception law neither enlighten nor explain, fun as it must be to write.

For example "mention 'roach' in a message and within 24 hours the DEA shows up at your doorstep ready to haul away your desktop . . . and . . . disks," p176. Get serious, Meeks. Nobody lawfully seizes anything without a search warrant, consent, or an emergency of life-threatening proportion. If your concern is over seizures outside the law, then obviously a law isn't going to stop them.

In conclusion, and on the subject of journalistic ethics, I think that the absolutist position that some data is wholly outside the reach of the judicial process or Legislative privilege should, in fairness, be credited to its source: a Colonel Oliver North, wasn't it?
Very truly yours,
Donald G. Ingraham
Assistant District Attorney

What's the nature of your objections to the late ACA 36?

As a lawyer, my general feeling is you don't change something if it isn't broken. You don't change the Constitution until there is a reason to do so. An example happened in 1974, when the people of California enacted a right of privacy as a Constitutional amendment. Article 1 section 1 of our Constitution. I was against it then—I'm not against privacy, but to say "from now on, judges, you can do things in the name of privacy" is to give judges a blank slate. What is "privacy?"

And right away we get arguments: whether or not an eight-year-old has a right to sex with an adult is a matter of "privacy." The government shouldn't intrude in it. Whether or not I want to use cocaine or shoot up or something is a matter of "privacy." Well, privacy has always been a concept we've had in our law since 1890 when Brandeis did a law review article (4 *Harvard Law Review* 193) on it, but to bring it out now means that there is now something new to play with in the courts. And I, as a DA, sit here and say, "Do we really need something else going on in the courts, unless there's a real reason for it?" I don't think we do. We're up to the gills now—we've got murderers, we've got drug dealers. Every time somebody turns around they want another law against something, and we're supposed to prosecute it. Do we need something else to take time in court? I don't think we do, unless there has been a situation where some right has been trampled on. For example: the last couple of years there has been recognition that children who were victims of sex abuse had a tendency not to want to testify into the grown-up-dominated world of the court. Now, since most child sexual abuse takes place out of the public eye, that really gives the defendant an edge over the person who's complaining about it, because they're a big grown-up and all the grown-ups are staring at the kid. So we went through laws that said the kid could have a parent, not a coach, but a parent or an adult figure with them to support them. That was a change in the law—the traditional law was no, only the witness could be there. But then there was a recognition that here is a particularly vulnerable kind of witness, and the option is either we give them some support or they aren't going to come into court at all, so we'll change the law.

But that was largely a matter of statute. The general concept was in the Constitution; the statute got specific. The idea of putting something in the Constitution and not being specific is just contrary to everything we ever heard about law or drawing or programming—you just don't put in things you don't need. You have to demonstrate the need, and address it specifically.

What do you feel is unspecific about the amendment as written?

Well, it says "the right of privacy extends to personal information contained in databases and electronic information systems." That was the final form of section 1. They had stopped amending article 13 of 1, which was the search and seizure article of California's Constitution, our equivalent to the federal Fourth Amendment.

Would that mean that the right of privacy, as it extends to personal information contained in databases and electronic information systems, is different from the right against unreasonable search and seizure? There is nothing in the Constitution that says the right of privacy applies to your purse, your car, your house, the things that we classify under unreasonable search and seizure. So to say that now there's a right of privacy in data suggests to me the possibility that such a right is somehow different from the right against unreasonable search and seizure. Otherwise it could have been put there or it could have been in a statute or something else. What is it that's different about it? This would dump us at that crossroad: there is something different. And as a lawyer—I was a defense lawyer for quite a few years—it is quite intellectually respectable and, I think, ethically required, for me, in defense of my client, to say that in this law the people of California intended to create a special protection for databases and electronic information systems. One more than they have in any written document, purse, medical record, you name it.

I think there's a far greater risk of having your files trashed or being hacked in a devastating fashion, where the guy goes and rearranges something, than there is from the police.

Now, what is that right? And that is where this amendment stops. I don't think it should stop there. And I've seen nothing that explains what it is they wanted to accomplish with this.

That's why I got bothered when he [Meeks] started talking about the blood frenzy [of DAs in the wake of the new wiretap law]. Wiretapping has been federally available for years, and the feds use it in California. It's not illegal in California. The rule was that district attorneys were not authorized to apply for it. Well, now in very limited circumstances, they can get it.

Could you explain what those circumstances are?

Basically, the subject has to be a heavy, heavy drug dealer, and it's got to be for a limited period, and it's got to be reported to the state legislature that we did it at all. We have to go to the judge beforehand to get the warrant, and we don't appoint the judges. And we have to go to the legislature afterwards and say what we did with it. And of course in the hearing

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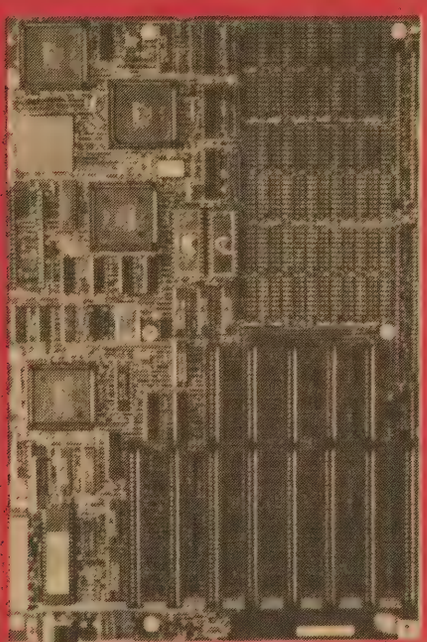

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itself the fact that the evidence was obtained by trace would come out.

Since probably few of your readers or yourself have ever applied for a search warrant, let me explain to you what's done. A search warrant, which is recognized in the Constitution, "and no warrant will issue but on probable cause" (IVth Amendment), sets up a procedure whereby we get hold of an affiant, a victim, for example, who will tell us what happened. And then we'll get a qualified police officer to tell us why that points to a crime and why in his opinion there is evidence of that crime at a certain site. We go to a judge. We run our reasons for wanting to invade that person's privacy for criminal prosecution past the judge. The judge then agrees or disagrees with us. If the judge disagrees, we have to go back and rewrite the warrant, and either submit it to that judge or some other judge. But if we go to another judge we have to tell that judge what the first judge didn't like. If the judge authorizes it, he writes a shopping list: this is where you can go and this is what you can pick up. And we go out and we get that which he ordered us to get. At that point it's a court order. And we return it to the custody of the judge. I write computer search warrants fairly often. And in those cases it's very narrowly circumscribed as to what we can grab and where we can look for it, as it should be.

Can you give me a concrete example?

Presently we are prosecuting in this office a group of fellows who got into transferring electronically coded strip values on transit tickets. We had reason to believe at some point that they were involved, and we have charged them. This was a year ago and we're still taking a look at the case with their attorneys. We've had several hearings on how the evidence was obtained and that to which the evidence points. And I can't give you too much about the case because it's still pending.

Is this the BART ticket case?

Basically it was BART tickets and red boxes for telephone company transmission. We had information, we ran it by a judge, the judge authorized issuing a warrant, we went out and seized property. Now we are in the business of taking a look at that which was seized and discussing with counsel what it points to. Ultimately there could be a motion by them to suppress the evidence for some flaw in the warrant, but I think we probably would win that.

But the court procedure is set up with all kinds of challenges all the way along the line. Other search warrants that we've done have largely been in the trade secret area. Ten years ago there was a fellow who worked for UCC, down in Palo Alto, and got on the computer and stole a proprietary program from a local house. We went down to Palo Alto under the warrant, and got back the stolen program, which was still on the original machine. And that again was a search warrant. We had a hearing whether the search warrant was precise enough. We've had a number of cases over the last couple of years which have involved trade secrets in developing software, or developing a computer application, where some guy has put all his money into it and somebody takes it and decides to market it on their own.

Well, we can't prove anything without evidence, and the only way we can get evidence of alleged theft via electronic access would be to search the place where the access was made from and see if we can find some clues there, either in the audit log or a tape or some record. In this particular case, the whole thing was printed out in his office labeled ISD Plotting, so it was a pretty simple clue. Even for a non-law enforcement type like me it was pretty blatant as to what the guy did, and he admitted it. The defense there was that it was okay, the ethic of the industry was that if you could steal it, it was not a trade secret. A Stanford professor testified that that was the prevailing ethic along the Peninsula ten years ago. I doubt if it still is.

Things have gotten a bit more commercial.

Well, people decided they'd like to get paid. The fact is, your paper has to accept advertising, we have to tax people to support me, it's that kind of world. Even Mother Teresa gets handouts.

So the idea that we would have to go through somebody to get a search warrant does not bother me as a big invasion of rights. It obviously bothers the person on whom we serve the warrant, and that's regrettable, but I don't know any other way you could be effective at law enforcement.

I have trouble projecting in this area because I don't know what it is they're trying to defend against, it's so vague. If there are particular things, like the WELL, or like a counseling service, like some sort of encoded thing that they want protected, then the proponents might want to consider what the lawyers and doctors have: a requirement under the law that a person called a special master be appointed by the judge to they supervise the service of the search warrant, so that I'm not running roughshod through anybody's office, and we don't have 300 cops with Hefty bags dumping everything in the bags. Say we were searching a lawyer's office for purposes of checking whether or not he'd stolen from somebody—we're going to be going through his drawers, pulling out his files. We're going to be looking in them. The special master looks at them first and says no, this is client information. That's confidential, you can't have that one. You can't have this one, you can't have that one.

And who is this person?

They're appointed by the judge who issues the warrant, from the Bar, from people who have volunteered for it.

So they're pretty nonpartisan.

They're supposed to be absolutely nonpartisan. It's like having a lawyer appointed to sit in at a lineup, a physical lineup. A lawyer will be appointed to sit there, to be sure we don't stack the lineup. Again, it's a pain in the neck, but I can understand the rights involved.

In fact, I would think if the search warrant we're talking about were for a doctor's records on a computer or a lawyer's records on a computer, the special master rule would definitely apply. You'd have to have a special master there for it. And as other professions or other concerns want to raise their points, that's quite possibly within the statute.

That's why it's hard to say I'm opposed to it—I'm not opposed to privacy in the computers at all. I have computers. We have a lot of them here. I'm all for privacy. But when you start putting it in the law, you're creating the possibility of problems and concerns that haven't really been talked out yet, and

Everybody is conscious about intruding in areas of the imagination and property and intellectual ideas. That's what is keeping us alive, and that's something that's sacred. But you can't really expect us to protect those areas by denying us the tools that we are already using.

that's the value of what Assemblywoman Moore and Bob Jacobson did, they put this on the agenda. Now unfortunately most of the discussion has been like the stuff Jerry Pournelle was writing, "yeah, we ought to have this, it's a great thing, wow," but there hasn't been a whole heck of a lot of critical thinking on it: well, what does it mean? And that's what concerns me.

Suppose you get hacked. I assume you've got a personal computer—everybody who's reading this probably does. Suppose somebody gets on and begins terrorizing you. Or says, as happened in Los Angeles, that I will wipe out your database or I will kill your cat or something unless you put $500 and I'll tell you where. This has happened—I'm not making up science fiction. You get bothered by that, as you rightly should, and you come to us. You say somebody's ripping off my story, somebody like that guy who broke into the university computer several years ago and was erasing files. How did we find him? We put a trace on the phone, a pin register. We found out where the calls were coming from, with the cooperation of the phone company, and a court order, which they require. We had permission to find out where the calls were being placed from. We got a search warrant, we went out and seized the equipment we needed to prove that he was doing it.

Now suppose that this statute comes along and

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says all that is highly private—not like other property, but more private. Will I have authority to protect your computer to get a search warrant to find out where it's being raided from? Right now, as we sit here, I can tell you, yes I can. I've done it, I can protect you under existing law. But if they change the law, they put in a new factor, then I can't represent to you that I can do it. I'll try it, because nobody's told me I can't. But I know now we're going to spend a couple of days in court and a lot of motions and a whole list of people coming and testifying who may take the position, "No, we can't do that any more. That's a special kind of privacy, and I need a special master to do it legally." And it has to be understood, I think, that if we don't get a search warrant correctly, then that which it produces is not available for evidence, and anything that what we seize leads to, for example the description of where they buried Jimmy Hoffa, isn't available. We dig up the body, we can't use what we find. So this is kind of serious stuff, and all we're asking for is let us know the rules before we get into it. If we have a victim we're trying to help, and all of a sudden you change the rules on us, what do we go back and tell the victim? We tell them, oh, the system's irrational and nobody's concerned about victim rights? That's not fair either.

I have to admit I'm not nuts about the whole adversarial system. There's a whole lot of wasted motion built in.

Oh, no question, but you've got to understand, it's not designed for truth. I see it as mainly concerned with being fair, which is a hard thing to do. Any other system, you've got to give so much power to somebody—I'm now at the age where friends of mine are in fairly high government positions, and an awful lot of them are wholly incompetent. It scares me to think that people like that are running the country.

The courts are not supposed to be democratic. The courts are supposed to be a curb on people being democratic. Because democratic is lynching—"let's go get ahold of Larry Singleton and drive him out of town." "Let's get Meese out of his job because—well, so far they haven't laid a glove on him, but he's just an unpleasant fellow." That's a political decision, but I don't like it in the law courts.

And that's what worries me here. When you put a law in like this, I have no idea what's going to happen. And I like courts to be somewhat predictable, down to the area where you and I are going to argue over what goes on, we're going to get twelve citizens and run it by them, and they can decide the facts. That I understand.

But when you're going to leave it to somebody you didn't vote for, I didn't vote for, they just got appointed, to suddenly make up a new law, which will provide a lot of employment for deserving law clerks to write briefs about it for the next three or four years—that is not a good way to run as important a business as electronic communication and computer technology in the state. It's too important to fool around with like that.

My personal feeling about it, speaking totally as a non-lawyer, is that it's something of a crapshoot what happens to you in court. The theory is great and it doesn't always happen. A different jury and a different judge will produce a drastically different outcome of the same case. There are political factors and vendetta factors. There's the well-known jury-sympathy factor in insurance cases. There are all these capricious factors in there.

It's not an exact science.

No, it sure isn't. And that being so, a Constitutional amendment is a whole lot bigger fence around my rights than just a statute.

Well, I don't mind that, but what's it going to fence in and what's it going to fence out?

Well, what I'd like to see is that nobody reads my stuff on the WELL without my permission, nobody reads my mailbox, nobody reads my computer stuff at home. . .

The way the WELL works, do you know what's on it? It's a bulletin board, isn't it?

It's a conferencing system, but everybody also has a private file area for storage.

Well, right now there is no way, short of a search warrant, that I could get into your private files. But if I subscribe to the WELL, I could read everything you had out for public discussion, just like on a bulletin board. That is the law now.

Could you, as the result of something I said in a public discussion, get a warrant to search my private files?

If in public discussion you said, "I have presently in my possession an annotated list showing the whereabouts of every kidnapped child for the last six months"—I'm thinking out loud—I really don't think that that would be sufficient.

One of the cases was with a guy who said. "Eat the rich." I don't see how anybody reasonably, even in Orange County, is going to go out with a search warrant on that. If we found a lot of nibbled rich people lying around, then there might be a pattern to that. But I just don't see. . .

It's fun to fantasize that the police could be that overbearing, and occasionally there are federal authorities that prove these things can happen. I think there are some DAs that will go off. But I think that's a risk we run. I think there's a far greater risk of having your files trashed or being hacked in a devastating fashion, where the guy goes and rearranges something, than there is from the police.

One of the problems I have with the mindset of the ACLU is that the greatest threat, in their formulation, to the enjoyment of our society and our liberties and all that, is the police. I don't share that. From my standpoint—and I realize that I'm white and I'm 50 and I'm a Cubmaster and I've got all these good Norman Rockwell credentials—I'm not afraid of the police. While the ACLU has a valuable role to play in being the gadfly, in my opinion there are an awful lot of legislators who lose sight of the fact that these things are not the major problem. The Bill of Rights is a curb on government, but it doesn't have to take the place of government. Nobody calls for the ACLU if they're being mugged. There are real problems out there, and we have to have the authority to confront them. And we can't always run it through an Assembly committee before we act, because there'll be nothing left.

The question really is, and it's a democratic decision, do you want us to be effective at protecting you, or do you want to be primarily concerned about the invasion of rights? The interesting thing is, procedurally, the invasion of rights is the first question. When we go to court, I grant that you've been monumentally inconvenienced by being arrested and having to post bail, but when it gets down to the question of guilt or innocence, the first question, according to our procedure, is "did the police overstep their lawful authority?" And if that's resolved yes, they did, it ends. Under our system, if we lose the search and seizure motions, the hearings under Penal Code 1538.5, that's the end of the case.

We turn down probably one to three percent of the arrests in the firearms area because of illegal search and seizure. They stopped the car with no reason and they did see a gun inside. Now the fact is the guy did have a gun, but we don't even get to that fact under our process until we establish that there was probable cause for the police to stop the car and look in it. Which is a pretty good safeguard. If the judge decides in our favor, the defense can appeal it all the way up. We don't get to appeal, but they do.

It's really a fairly well-balanced system. I can't think of a fairer one that could function. Again, to me the threat is not the police, the threat is people doing things the police get called to handle.

Certainly in the computer area, if anybody, any of your readers or yourself, ever had a computer-related crime or even a harassing phone call, I would be surprised if they said they went down to the police department and three guys jumped up and volunteered to handle the case, and right away there was satisfactory action. I'm not knocking the police when I say that, but resources are such that high tech crime is just very hard for us to handle.

Because you've probably got one or two specialists. . . Yeah. We've got me. And maybe two other attorneys that are fairly familiar with it. We've got two inspectors that are familiar with it. We have 140 attorneys, and out of that three of us have handled, at one time or another, computer-related crime. And we're one of the more active offices in the country. There's probably 20 people in the whole country. And if you're lucky enough to get one of them in, that's fine. Back when the original 502, California's computer crime law, came through, there was a great deal of fear in the literature like *Dr. Dobb's Journal*. We got into arguments there writing about it, and the fear was, okay, you start saying that unauthorized use of a computer is a crime and you're going to have the police sitting right next to your computer finding out who's authorized and who isn't.

That hasn't happened. Realistically, it's not going to happen. It's just like saying, "Should not paying for stolen library books be a crime?" We got into that at the county law library, because it's a tremendous expense to people. There are not too many policemen that really want to spend their time out looking for stolen library books, because they've got stolen kids to look for. Everybody is conscious about intruding in areas of the imagination and property and intellectual ideas. That's what is keeping us alive, and that's something that's sacred. But you can't really expect us to protect those areas by denying us the tools that we are already using to protect those areas.

And that's the problem that I get back to with this ACA 36. I don't know what it's supposed to accomplish. If all it is is to write something into the

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2.	HP Laserjet Series II	6.6
3.	Okidata Laserline 6	6.5
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Constitution, then we don't need it. If it is to correct something that a particular court case has come along and said—for example, several years ago there was a court decision, *Ballard*, that said that any victim of a sex offense could be forced to undergo a psychiatric evaluation. This was widely thought of by the ACLU at the time and by the defense Bar—yeah, why not? The National Organization for Women, the Bay Area Women Against Rape, some prestigious, solid groups, got up there and convinced the legislature that this was terrible. Where the hell is the authority that a woman is more likely to complain of being raped than she is of having her purse snatched or a merchant of being embezzled? Why are they subjected to psychiatrists. . .

Singling out a particular class of victim. . .

Exactly. So there's a statute, Penal Code 1112—not a Constitutional amendment but a statute—that said, "Hey judges, no. You can't order that any more." That's what I'd like to see. I don't want to see anybody harassed, but before we start tampering with the law, particularly the fundamental law against which other laws are measured, our Constitution, let's see where the abuse was that this is supposed to correct. And I spent a lot of time going through the federal cases, talking to guys in other states, going through every California case, and I have no case where any court, ever, has treated computer stored data any differently from any other storage system. If I'm wrong, and I could be—there's an awful lot of decisions, we've got volumes and volumes and volumes of them here—no one's corrected me. That issue hasn't come up. The courts haven't said it.

The FBI has done courses on this, and they say the same thing I'm saying, and they've got cases that say so. I've cited cases that say so. Nobody said any different. So the only thing I can come down to is the possibility that Assemblywoman Moore, in all good faith, has listened to some constituents, and the constituents say, "We'd feel a lot better and a lot more sure with this in the law." And what I'd like somehow to do is to get in touch with these people and find out what it is that's bothering them.

So what do the DAs want to see in this area?

There's an awful lot of DAs, and they cover the whole spectrum. Some of them are politically ambitious, some of us aren't. I'm sure there are some DAs who are looking for the day when they have a no-knock warrant, which is illegal, and they can go into other people's private files without court orders, and there are some DAs who want to be president, and some of them probably want to nuke Colombia. Everybody's got a secret agenda somewhere along the line. The idea that this is a real political movement—if it is so, nobody's told me, and I've been at it for twenty years.

I don't know what the concern is. I respect the fact that there is a concern, and it's a legitimate concern, because any concern is legitimate. But I think there might be some way of addressing it in a less draconian measure than putting something in the law that's a loose gun on the deck. What does it mean? What are we supposed to do now? We don't know.

So what would you like to see in a law in this area?

I'd like to see nothing change in the law in this area until we've had a chance to come to grips with some real problems and deal with it from an area of practical experience. If there is a need for the law, and I don't see it, then there must be somewhere in someone's understanding, a situation that cries out for correction, and that is what the legislature can do. When we got the computer-crime law passed, it was in the wake of a case in Berkeley where a student had broken into the University of California's computer, and he was extorting his own space on the main processor. Well, in the process of doing so, he didn't know what he was doing, and he erased quite a few people's work. I don't know that he really cared about that—he said, "Ha ha, you can't catch me. I'll get out if you give me my own space." And of course we picked him up.

We used that story in arguing to the legislature. All we could get him for in those days was the commercial value of the time taken from the university computer, and they were billing at the rate of two bucks an hour, five bucks an hour, because they were trying to encourage people to use it. The problem was that to get a felony out of what this guy had done, we would have had to have had over $400 worth of computer time, and we didn't have that.

It would be as if in a burglary area, where somebody breaks into your house, we could only charge on the rental value for the time he was there. The outrage was the fact that he breaks into your privacy. Computer privacy was really what Penal Code 502 recognized, and the new amendments do the same thing, the Davis bill (enacted January 1, 1988). That people who interfere with your access, which the old bill didn't cover but the new bill does, are committing a crime against you. They're denying you something you have a right to have. In effect, it's false imprisonment. You have a right to go wherever your mind can take you, and no one has the right to stop you. That's now a crime here. This is an affirmative statement by law enforcement, by the legislature, that we want you to use [the technology]. Again, that's a statute, not a Constitutional amendment.

So I think our credentials, not being here to suppress the use of the technology or to stifle dissent, but to make sure that it can be done in a fair environment, are pretty unimpeachable. I think the record of this office is not against people using computers for any purpose they want to use them for, on the same grounds that you can use anything else. I think that would continue to be our position—we use them all the time. Law enforcement has its own bulletin boards.

It has the potential for some special wonderful relationships, our ability to communicate immediately. Anything that expands the frontier of freedom and our choice and our ability to communicate with each other is a fantastic thing to get in on. It has with it one risk, which telephones and other technologies didn't have, which is anonymity. It's possible for people to go on and do harassing calls, pretend to be somebody else, commit fraud. I was at a conference where the question was the digital signature—when will the courts accept digital signatures? Because there's an awful lot of technology now, and the courts are slowing down again because we want something on a piece of paper that somebody can look at and say that was signed by them. It's a pain in the neck. But you get a little bit nervous in the kind of work I'm in if we don't have something where you eventually get to look at it and say that's not my signature. What do we do with the guy that kites the checks, what do we do with the person who gets your access code and puts it on things? At some point you've got to be able to go on the stand and say, "That's not mine, I'm not going to pay the bill." And I don't know how we get around that. But as long as there are evil people, and that means as long as there are people, because everybody's got potential for evil and some make a career of it, you're going to have to have some authority for the police to investigate crimes, unless we say that there are some people who cannot have crimes committed against them.

California did that for quite a while in our racist days. It was the law here that white people could not be convicted on the word of Chinese or blacks. And that lasted here almost to the turn of the century. One of the cases that turned it around was where a Chinese guy and a white guy were carrying the miners' payroll, and they were stuck up by a white guy who killed the other white guy. The Chinese guy could make an eyewitness identification, and the police said, "Yeah, the guy's guilty, we know that, but he can't be convicted on your testimony." So he walks. And this is nonsense.

Well, in effect we'd be saying to the public, to the victims, yes, there was a ripoff, there was a robbery, the whole work of this individual was destroyed, but we're going to say that the destroyer, because of the way the police got the evidence, though they didn't know it beforehand, is able to walk off scot free and whistling because we have later decided that what the police did was not legitimate. All we're asking is that the rules be known beforehand, and we'll follow them. But if they're made up after the fact, then we're feeling cheated, the police certainly are, I certainly think the victim has been deprived of justice, and we haven't accomplished anything. □

I'd like to see nothing change in the law in this area until we've had a chance to come to grips with some real problems and deal with it from an area of practical experience.

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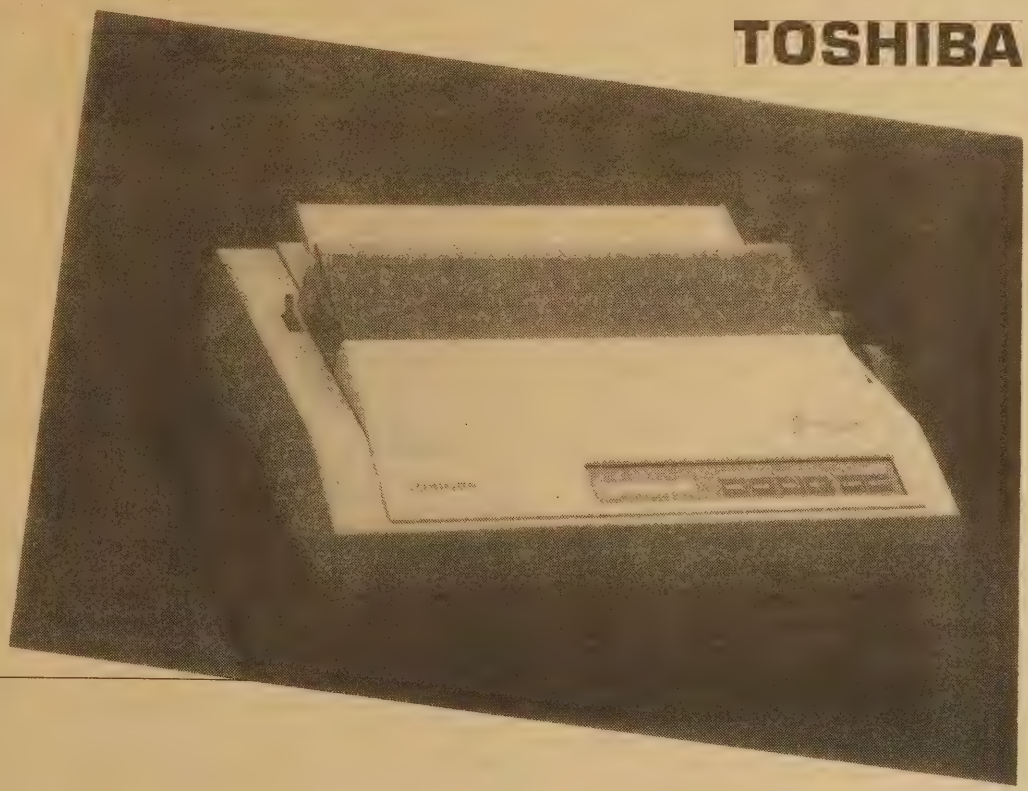

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The Care And Feeding Of Your Computer

I assume that if you are reading this article you either own or use a computer in your everyday life. Some of us use terminals linked to large systems in remote locations, but more and more of us have personal computers (PCs) on our desks. With the decentralization of the computer function comes the decentralization of the responsibility for taking care of your equipment and data. Too many users have learned the hard way: equipment can be replaced, but data that is not backed up can be lost forever.

This article covers simple and often overlooked obligations of PC ownership. Those readers doing their accounting on a PC should take special note, not only because it is the area I specialize in, but because the loss of accounting data can be devastating to a company's operations. A lost word processing or spreadsheet file can be frustrating and time-consuming to recreate, but losing your accounting data can cripple or even halt your entire operations.

Powering On And Off

Try to minimize the number of times you turn your computer on and off during the day. Many people turn their computer off every time they leave their office. Don't. It's better to leave your computer on when you take a break or go for lunch. The computer system in my department is often on for a week or more because staff members dial into our local area network from their home computers.

When you turn your PC on you are creating a massive surge of power through the system. Its somewhat analogous to a light bulb. Light bulbs seldom burn out while they are on; it's when you first flip the switch that the light goes out.

If you will be away from your computer for an extended period of time, though, you should turn down the brightness control on your monitor to prevent the image from damaging the video screen. Always, save your work before leaving the computer.

Should you experience problems when you first turn your computer on, check to make sure that all the electrical connections are tight, and that your installed devices (i.e. printer, hard disk, modem) are turned on. This is a common problem that we see again and again.

One final note: always exit the program you are using before turning the computer off. The disk drive head that reads and writes the data may fall ("crash") on a section of your disk and damage your files. Also, many programs get confused if you do not exit to the beginning before powering off. This causes problems the next time you run the program.

Storage Media

Always have an ample supply of blank formatted disks (and tapes) available. This gives you the ability to back up files at any time. Our company uses disks by the hundreds so we buy them pre-formatted. Anytime a disk is needed, it is ready to go. Remember, disks are one of the cheapest forms of insurance available. Don't make the mistake of using unreliable brands or not having enough disks on hand.

I also recommend periodically cleaning up and checking the performance of your hard disk. Keeping copies of unnecessary files can cause the disk to get full and sluggish. The speed with which your computer finds, sorts and stores your data can be noticeably reduced by a cluttered disk.

Software utility programs are available that will perform diagnostics on your hard disk and tell you how efficiently it is operating. These programs tell you the number of files and directories created, how many files are fragmented, how many bad sectors there are and how fast the hard disk is operating. Utility programs then give you the ability to correct many of these conditions. One caution with these programs though: they should used by someone who understands precisely what the program is doing to avoid any undesired results.

Always have an ample supply of blank formatted disks (and tapes) available. This gives you the ability to back up files at any time. Remember, disks are one of the cheapest forms of insurance available.

Care Of Floppy Disks

The slightest abrasion or soiling of a floppy disk's surface can make a file unreadable. Handle disks with care. Do not touch the exposed area of the disk—hold it gently by the protective jacket, either at the edges or at the top, where the label is affixed. Never fold or bend a disk or attach paper clips or staples to it.

Keep disks away from heat sources, direct sunlight or high humidity, even when they're in their protective sleeves. Disks are plastic devices holding magnetic fields. Heat can melt or warp the plastic thereby destroying your data forever.

For the same reason, isolate disks from any form of magnet. Electric motors, stereo or public address speakers and telephones all emit magnetic fields that can affect a disk. And don't forget such things as the magnet used to hold letters to a typing stand or the clasps on briefcases and purses.

Disk labels should be prepared before affixing them to a disk. If you need to write on a label already attached to a disk, write with a felt-tip pen, never a ball-point, and use as little pressure as possible. The pressure of writing on a disk label can damage the floppy disk. This is not a problem if you are using the newer 3 1/2" disks. They have hard outside cases which better protect and conceal the floppy disk inside.

Labeling disks properly prevents accidental destruction of work and enables files to be located quickly and easily. In our office this includes not only the client's name and/or the type of files on the disk, but the creator's name and file creation date as well.

Never open a disk drive door when the red light is on. The light indicates that the drive is in motion. If you open the door while the drive head is active you could make the disk unusable, as well as damage the drive head or cause it to go out of alignment.

Backing Up Your Data

It is important to keep backup copies of both your programs and data files. Make duplicate copies of your program disks, and store the originals in a safe place, separate from your backups. The best policy is to keep a copy of your program files off-site.

Some software, especially accounting, requires a great deal of installation and configuring before you can even begin to use the program. Always make a backup copy from the hard disk after installation and store it separately from your regular backups. This can save you considerable time in the event you are required to reload the software.

For accounting files, back up your data on a systematic, regular basis. Have a minimum of three sets of backup copies of your data and rotate their use. Always update the oldest copy each time you back up, remembering to keep a log of the date of each backup. Keep a slip of paper in the jacket of the disk with the date, and indicate the step you were taking when you made the backup. You might need to refer to a backup and need to know "Was this the backup before or after I posted the General Ledger?"

For word processing and spreadsheet files, keep one copy on your hard disk and at least one other copy on a floppy disk.

Be aware of the possibility of theft of your hardware and software, or destruction of your files by an unforseen catastrophe or unhappy associate. Have a backup copy of your data taken to a safe location off-site every month.

While there are many products on the market that you can live without, a surge protector should not be one of them. Power surges occur continuously and are a primary cause of damage to computers, software and data. "Spikes" of electricity can wipe out your entire system. Protect your investment by purchasing a quality surge protector. Read the specifications on the label to ensure that you are

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Suzanna Musick is a Manager in the Computer Consulting Department of Hemming Morse Inc., CPAs. Her experience encompasses a wide range of industries such as distribution, retail, construction, real estate, financial and professional services.

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Keep up-to-date records on all your computer equipment. This includes the type of computer, the model and serial number, date of purchase, vendor, service telephone number and your service contract number for each component. This information is valuable when you have a problem and need to get it fixed. The vendor will want to know the date of purchase; if you can provide them with a copy of the invoice, you are one step closer to getting your problem fixed.

Dust and dirt can cause your computer to malfunction. Using a dust cover to keep out unwanted particles is the best method of protection.

Be extremely cautious about jarring a hard disk when moving it to prevent "head crashes." If your computer must be moved, follow the manufacturer's recommended procedure to prevent loss of program files and data. Most hard disks come with a "sit" or "park" program which moves the drive head to a safe location on the disk for moving it from place to place.

System Breakdowns

Although your system will be relatively trouble-free once it is up and running, don't expect it to last forever. Problems will occasionally arise. Be prepared for errors before they occur. Have written recovery procedures for predictable accidents such as a power loss, theft, damaged equipment, etc. For larger installations this could mean that the best strategy is to have spare equipment, (e.g., a backup power supply, extra disk drives or an extra printer) on hand.

Most importantly, when you have a problem with your system, don't panic. Take time to document the problem. If you can do a "screen dump" of what is on the screen, especially an error message or code, do it. If not, write down exactly what has happened and what you are seeing on the computer at that moment. If you don't, you will find it difficult to recall what occurred minutes later, much less hours or days when you are trying to explain to the technician what went wrong.

When you encounter evidence of something wrong (e.g., a "parity error" message) don't ignore it. Continued use may complicate the problem and result in loss of data files. Document in writing the steps that led to the error and let the appropriate person in your company know about it right away.

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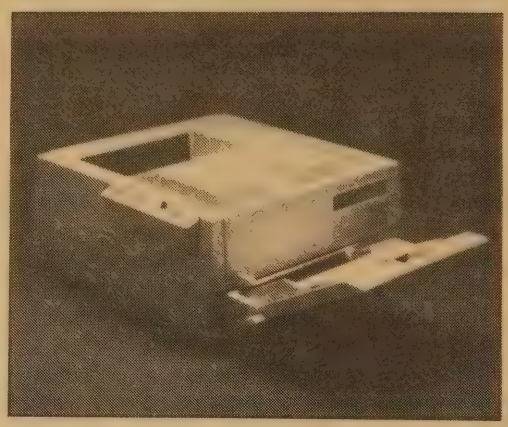

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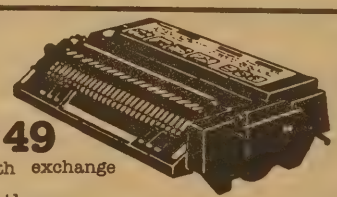

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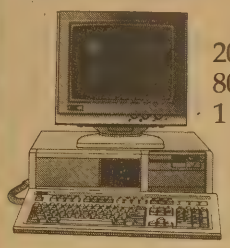

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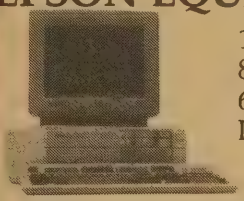

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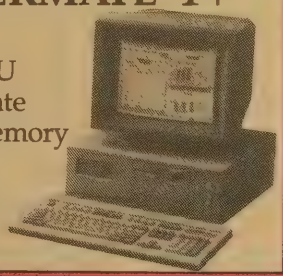

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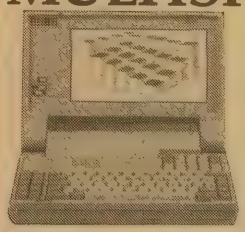

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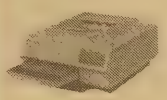

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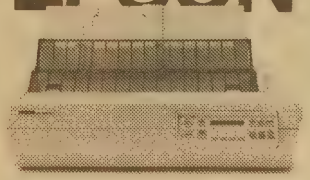

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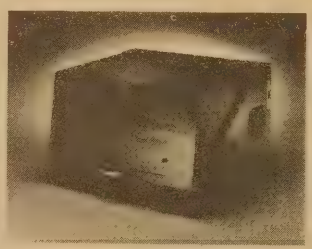

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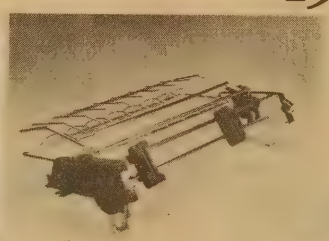

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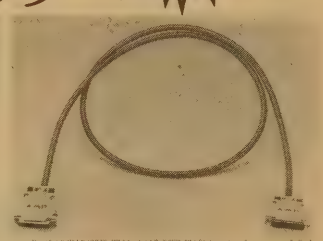

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ment to their insurance policies. If you buy computers like we do, it is one of those things that can slip through the cracks. Don't let it. I worked at a company where we had computers stolen. Fortunately, we had backups of our programs and data, and our equipment had been added to our policy.

Make sure you review your existing insurance to see if it covers your computer equipment and data. Your system should be covered for loss from theft, vandalism, fire, flood and other disasters. Have your policy written for the full replacement cost of the equipment (not its depreciated value) and make sure it includes coverage for software and data. Some policies are more comprehensive than others. You may need to add a special endorsement (rider) or a separate computer policy to cover your needs.

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Have a written policy regarding backups, their frequency and storage, and make someone responsible for enforcing your policy.

There is more to owning a computer system than just turning it on, using it and turning it off. As with any other piece of machinery you use, your computer requires care and maintenance to perform at its best. The suggestions listed in this article can go along way to helping you preserve your computer, your data and your sanity.

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T/Maker: Tiny Software Company Takes On The Giants

Says president Heidi Roizen: "We do it with a very small number of people and a lot of mirrors."

By Dennis Erokan and Mary Eisenhart

Photos: Patricia Leeds

T/Maker is a small company by anybody's standards, having hired its fourteenth employee only this year. Ninety-nine percent of its stock belongs to its 30-year-old president, Heidi Roizen, and 29-year-old VP/chairman Royal Farros, who first met as students at Stanford, where they received master's degrees in business and engineering respectively.

Despite its size, however, T/Maker enjoys a significant presence in both the Macintosh and PC markets—as reflected, perhaps, in the fact that Roizen is currently president of the Software Publishers' Association. Its *ClickArt* series has been a mainstay in the Mac marketplace since 1984; the *ClickArt* concept has moved to the PC and *Windows* environment, most recently with the debut of T/Maker's *ClickArt Scrapbook+*. *WriteNow*, the Macintosh word processor, which T/Maker publishes in connection with Steve Jobs's NeXT Inc., is now in its much-enhanced second version.

"[Microsoft's] Bill Gates," says Roizen, "says companies like us are like the little fish that dart in and out. We're the niche companies. We can accomplish things. We can grow by continually innovating because we have the authority to make decisions that the bigger companies don't have."

In an industry often beset by the problems of nearly uncontrolled growth, where the successful startup often collapses under the weight of its own expansion or is gobbled up by a monolithic corporation, T/Maker is an anomaly. Founded in 1979 by Roizen's brother and named after a database product he'd written (which the company still uses to handle its accounts), it was incorporated in 1983. Since the company has never had outside investors, bank loans or similar external pressures, Roizen and Farros are in the enviable and nearly unique position of controlling the evolution of T/Maker and its products.

T/Maker's Heidi Roizen and Royal Farros, who run their company without benefit of bank loans, venture capital, or outside shareholders. OPPOSITE: Paper clip from T/Maker's Click Art EPS collection.

So committed are they to this vision that, in contrast to the rest of the industry, T/Maker has twice sold successful products to other publishers rather than undertake the rapid expansion required to support them: *ClickArt Personal Publisher* (now *PFS: First Publisher*), the first desktop publishing package for the PC, to Software Publishing Company, and *ClickOn Worksheet*, a spreadsheet and graphics desk accessory for the Mac, to Borland as an enhancement for *Sidekick*.

"The two of us kind of drive the company," says Roizen. "We look at the market and look at the players and look at our own objectives as people—we want to be a quality place, we want to be in it for the long haul, we want to reward the people we work with. We want to work on projects that are personally exciting. We want to pick markets that have the characteristics that can be supported by a company like T/Maker, a small company as opposed to a company with massive banks of telephone operators waiting for your call.

"People perceive us, I think, as being a lot larger than we are—we have 14 people, which is the biggest we've ever been, but I think people think of us as being much larger. But we do it with a very small number of people and a lot of mirrors."

We visited T/Maker's Mountain View offices shortly before the Macworld Expo. In the midst of frenetic activity centered around the rollout of *Scrapbook+* and the final touches on *WriteNow* 2.0, Roizen and Farros discussed their company's history and future, and reflected on the particular problems and opportunities facing small vendors in the software marketplace.

How did T/Maker come into existence?

Heidi Roizen: We were founded in 1979 when my brother wrote a spreadsheet program. We used to support 182 different formats—TRS-DOS, Apple II with CP/M cards—and we used to sit here at midnight and make the disks for the orders for the next day.

We incorporated in '83. We didn't have any venture capital; we were just running off the sales of the product, which were about $200,000 at that time. We pretty much spent the first year learning how to run the business and making lots of mistakes.

It was right around the heyday of when Lotus was making its big splash, and so we thought we'd do 1/100 of what Lotus does and we could get 1/100 of the sales, and we could all be rich and happy. And it sort of didn't work that way.

Why didn't it work that way?

Well, I think that it was pretty much an all-or-nothing game. The people with presence got sales, and the people with no presence didn't get sales. So we had kind of this cult following; *T/Maker* is a really unusual product—it's very difficult to learn, I would say, but once you learn it you can do anything. It kept the company going.

Once we had the system in place, we realized that one product wasn't enough, and that it would be incrementally beneficial to add more products. That's when we started looking around to say "rather than be a developer who self-publishes, let's be a publisher who happens to have one self-developed product."

We came up with the idea for *ClickArt* in late '83. We saw a Mac, thought it was really neat, and brought one in here in January of '84, the week before it was introduced.

Everyone was playing with *MacPaint*, and everyone was pretty bad. Except one guy drew this really good picture of Chuck Yaeger.

Royal Farros: It was the first intelligent drawing we saw. Everything else looked like what the Mac used to be called—a sophisticated Etch-A-Sketch.

HR: So we decided that it would be a really good idea, when these things came out, to put together a collection of images. From the day we thought of it to the day we shipped it was eight weeks. Then once we started rolling on that, we continued with more Mac products.

We've noticed that Mac companies have a hard time breaking into the PC market. PC companies have a hard time breaking into the Mac market. So we're kind of uniquely positioned because we got started in the Mac so early and because we originally came from the PC market. We were a little more used to the idiosyncrasies of each market.

RF: That's one of the ways that we first got a shot at *Personal Publisher*—here was this developer, and he had this terrific idea for doing this painting environment on the PC that would be very Mac-ish. And he went to all of what he perceived as the big Macintosh publishers, and said, "I have this great Mac product I want to do in the PC market." And no one would touch it with a ten-foot pole. Everyone was frightened to compete in the PC marketplace, whereas when he approached us, we saw the value of it right away. Since we'd been in the PC market, that didn't scare us at all.

HR: It should have, but it didn't...(laughs)

RF: When we were first estimating the size of the market, we thought, "Jeez, if we could just sell 500 of these things a month, we'll be doing great." And when it came out the gate, we were selling 5,000 a month.

We worked with Hewlett-Packard in those days, and they had never seen their fonts onscreen; they never thought they needed screen equipment because the PC wasn't WYSIWYG. So they were just amazed by this, and they sent out a corporate message to all their sales centers: "This company T/Maker has a real live *PageMaker* competitor in the PC world that works with the LaserJet and the Vectra—have a sales seminar and get 'em in."

Well, in one month we were invited to something like 26 H-P seminars to be the keynote speaker.

HR: We pegged the market so well in that particular situation that we couldn't grow the company to the kind of adequate level that we wanted to and still control the product and do a good job with it. It needed printer drivers and other things to be done with it, and when you're a publisher that's more difficult to do, at least at the stage we were at.

It all goes back to our philosophy as a company, of what we really want to do. We look at ourselves as a value-added publisher, and we think we're unique in the business, because as I look around I don't see another company exactly pursuing the strategy we're pursuing in terms of turning products, as we did with *ClickOn Worksheet* to Borland or with *Personal Publisher*, which is now *First Publisher* at SPC.

We look at it this way—products have different characteristics that suit them to one type of publishing versus another. Sometimes we've taken on products and have built them to a level where their need for a company behind them exceeded our desire to grow the company.

So you would rather have control of the company than control of the products?

HR: Well, we like to have both. But our basic theory, first and foremost, is if you don't control your company, you don't control your destiny. Our sense was that we wanted to maintain the control. We're always re-evaluating this, but our current feeling is we'd like to grow without ever needing any outside investment. We have no debt, no venture capital, no outside investors and no outside shareholders.

We've taken on the concept of controlling your products more and more as a publisher. But the problem with having complete control is that you lose that creativity that brings the interesting products in in the first place. That's why we believe that there's a place for a niche publisher like ourselves—we're accessible enough, people can come in. We're close enough to the ground, because we're small, that we think we understand what kind of products will be the next wave.

We have the benefit of being in on

Heidi Roizen: "Products have different characteristics that suit them to one type of publishing versus another. Sometimes we've taken on products and have built them to a level where their need for a company behind them exceeded our desire to grow the company."

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new hardware, being in on what the other publishers are doing. I think we have a pretty good track record: we had integrated software in '79; we had the fifth product for the Mac; we had desktop publishing for the PC in '86; we had word processing on the Mac before all the other guys got in, and now we have a graphics application under *Windows*, which is the first of its kind. So I think we've done a fairly good job of sensing those trends, and it's not any sort of brilliance or divine knowledge, it's just because we're basically computer users here.

How did WriteNow come to T/Maker?

HR: There was a company called J.T. Solaster up in Seattle. They were known to be good programmers, and Apple commissioned them to do a word processor.

RF: Actually Apple got cold feet about whether *MacWrite* was going to make it on time for the Macintosh rollout. They had visions of "we have this graphical machine, it has this thing called *MacPaint* on it—and nothing else?" It really is a $2500 Etch-A-Sketch at that point.

HR: So they had these guys write this thing called *MacAuthor* as backup code. But *MacWrite* got done, and they shipped with that, and they kind of lost interest in these guys. And as they learned, these guys were meticulous, and somewhat slow in getting the product done anyway.

Well, Steve Jobs really liked the product. He liked it so much that he bought their company. He bought the source code to the product, they moved the company down here, and they said, "Let's finish it." And one of the terms of the deal was that ultimately Steve would market it for the Macintosh market to make some money back for these guys.

RF: The idea was that *WriteNow* was supposed to be the same as *MacWrite*, but these guys got so aggressive with it, coding in 100% assembly language, multiple columns, footnotes, that they actually took it way beyond that. So it was in Steve's mind that this was going to be the replacement for the Mac's entry-level business word processor.

HR: Steve drove it a lot and continued to keep the features going, and played a fairly big hand in it.

RF: We think all of that's significant because, if nothing else, *WriteNow* is very easy to use, because it was designed as either a companion product or a replacement for *MacWrite*. You don't see that in a lot of the newer products that are coming out—they're all going "let's all violate the Macintosh interface as much as possible."

HR: Meanwhile, two of our developers went off and took jobs at NeXT. So they were sitting around one day at NeXT, and at this time there were probably 20 employees, and they decided that they didn't know anything about publishing software (laughs), which was very good for us. And the two developers who had worked for us said, "Well, *we* know some people who know how to publish software. . . ."

So they invited us up for lunch, and it was rather funny. I went for one reason, which was that I'd never met Steve Jobs and I thought, "I've been making money off the Macintosh for years, and wouldn't this be interesting. . .(laughs) I'll go up and give them a little one-hour mini-lesson."

We had about a three-hour meeting. Steve came in about halfway through and just grilled me: "How much does this cost?" "What distributor's the best?" "How do you get them to sell your product?"

Then we went off on our merry way, because we were in the heat of *Personal Publisher* and getting that shipped, and they went off on *their* merry way, and discovered that it was very distracting for them to try to start a software publishing business.

RF: Also, as soon as they ship a machine, Steve's going to be on the cover of everything including *Field and Stream*. Everyone was waiting for Steve's next product, and it would be anticlimactic for it to be a word processor.

HR: So we went back in. We had sold *Personal Publisher*, and then a month later we sold *ClickOn* to Borland. Right when we signed the deal, Philippe Kahn turned to us and said, "What are you guys going to do? You don't have any more products." So we went home and thought, "What are we going to do? We don't have any more products."(laughs)

So we went back to NeXT and said, "Hey, why don't you let us do it?" It kind of just felt right—they had gotten comfortable with us, we had a good in with these developers . . .

RF: We had people tugging on Steve's shirt saying, "Let them do it, let them do it. . ."

HR: And also, what was nice—when we sit down to negotiate a contract, we're not like some product manager who has to answer to four levels or something. It was a very unique deal—no one else could have done it, because I don't think anyone else would've been willing to sit down and craft such an unusual deal. Steve wanted to have a say in the look of the materials. We normally never give a developer prior approval, but in this case. . . They wanted to have more of the reward, so they shared the risk with us. It's more like a joint venture than a typical royalty deal—they actually help us pay some of the marketing expenses.

RF: When we started out contractually, the upgrade to 2.0 was only going to be a few items, a few feature improvements on a very low level. We said to ourselves, "We'll cross that bridge when we come to it, because we're going to sell a lot of products and these are the type of people who aren't going to orphan customers."

The people up there—the "father of the Macintosh" and the whole family of the Macintosh—felt very passionate about it. They're going to feel passionate about making a word processor that's very contemporary in the marketplace.

When we announced the upgrade, it had 16 feature changes over 1.0, which was about four times as many as we were supposed to get in the first place. We were pretty happy about that. We knew that we were going to add even more on.

HR: We log every user request, and we take those to NeXT every month. This is good feedback for them—think of beta testing the word processor for the NeXT machine on 50- or 60,000 Macintoshes. It's given us a lot of leverage when we come back and say "We want this feature" —it' s not "*We* want this feature," it's "Here are 87 people who called this week who would like to have this feature." They've really been good about taking that element of personal pride in the product.

RF: The final 2.0, when it ships, will have over 50 features, improvements, changes to the program, over 1.0. Since we announced it, we've quadrupled the number of features that we were giving people. As far as ease of use goes, *WriteNow* is easy to use, and as far as speed goes, it's the performance word processor for the Macintosh world. We also want to give people the tools they need to use it as a professional tool. Writers are probably one of our big markets out there, and yet we didn't have features that were critical to writers. So we added those features.

We took this wish list and set up a preliminary chart. Mailmerge was the number one single item. Cursor keys was the number two item. Translator issues—linking the Translator [which in version 1.0 required the user to quit the application in order to import or export files in other formats] inside, making it transparent. Those cumulatively were the most requested items.

What we've added on subsequently is fixed-line spacing. Jonathan Seybold does his *Seybold Report* on *WriteNow*, and he said, "I will stop using this if I don't get fixed line spacing, because my paragraphs can't break up vertically. Say I'm working with 10-point type with 11-point

Heidi Roizen: "I think we've done a fairly good job of sensing trends, and it's not any sort of brilliance or divine knowledge, it's just because we're basically computer users here."

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leading; when I put a superscript in there, the paragraph shouldn't break apart." So we thought Jonathan was probably pretty representative. . .

We've added word count, character count, paragraph count. Case change—more writing-type tools. Smart quotes.

A lot of the things that we're adding in wouldn't have been very pertinent if we'd talked about them a month ago. Now they're *very* pertinent, because everybody's comparing what *FullWrite* has to *Word*, and what *WordPerfect* has, and some of these things are the differentiating pieces in the puzzle.

The product's been progressing behind the curtains all along. Our number-one requested item a year and a half ago was *PageMaker* compatibility, and we worked with Aldus to do the import and export features, just as we worked with Quark, just as we worked with *Ready-Set-Go* to make sure those were all direct import-export compatible.

HR: A lot of these features may seem small, but one of the things that we've always been recognized for is the feel of *WriteNow*—when a person uses it, how intuitive it is and how well the features fit together. So 50% of that was which features to implement, and the other 50% was how. We spent marathon meetings deciding should this be two dialog boxes or one, and what order should they be in, and which thing should be on top.

We seriously spent a whole day on one menu. I guess at a bigger company you'd probably have a person doing that who doesn't really talk to the users, but at this company you have Royal, myself, the guy who's been doing the coding and the woman who heads tech support. The four of us sat down and went through it feature by feature. We went into a room and decided we would not come out until all issues had been resolved.

RF: And that was just to finalize the interface.

HR: Given the way the market has shaped up, everyone else seems to be dragging their word processors into desktop publishing; our belief is that users still need a solid word processor. People who do a lot of document work and not so much graphics work. So we really decided not to add things like picture wrap and box-drawing tools; we'd love to do that stuff over time, but let's focus our immediate attention on making it the kind of tool that a writer or a word processing person can sit down with and have it be the most intuitive tool possible for that kind of work, and not encumber it with the kind of formatting options that are really not used in day-to-day business correspondence or documentation.

Because you see your commitment to the company in terms of the long haul, how do you get away from being overwhelmed with detail?

HR: We're trying. You learn to slowly let things go. But there are some times you shouldn't let things go, and I think one of the big mistakes people make when their companies grow is that they forget to stay close to their products. I can do a demo of any of our products probably as well as anybody on the staff can, and I think that's really important, because if you don't even know what your own products do, how can you be in this business?

The things I'm trying to let go of—I'm looking for a CFO, I've been actively interviewing people, because I still currently handle all the financial dealings of the company, and need to let go of that. I recognize that there's a certain point at which my unique value to this company is not in my amazing ability to balance our checkbook. Even though I'm very good at it (laughs), it's probably not the best use of my time, so in a way I'm cheating the company by sitting here balancing the checkbook and running the monthly royalty reports. You have to know when to let go and when not to.

Ultimately this market is different from the days of '79 when we sat here at night and made up disks and put them in Baggies. We need to have the million-dollar ad budgets and distributors all over the place ready.

This week *Scrapbook* is shipping, and so two people from T/Maker, which is 15% of our staff (laughs), are down in LA doing a rollout to every distributor. You can't do that when you're an individual developer—you just don't have the time.

As a small company, how has your experience been in dealing with the retailers and dealers? Do you feel that you understand what's going on out there?

HR: We've really learned a lot about this. I think as a small company we've learned where we fit in, but we'd love to break to a new level. But it's hard.

Is breaking through to a new level largely a matter of distributors noticing you?

RF: It's not really distributors. For the most part the successful publisher doesn't rely on the distributor pushing product down the channel. Rather, we're pulling customers through. That's really important—you can look at successful software companies and successful publishers, and they do that.

In the marketplace, at least for the Macintosh, 50% of the market is through the traditional channel, through the Businesslands, the ComputerLands, the Entres, through the places where you buy an IBM PC. You don't buy a clone, you buy an IBM PC.

The other 50% is the non-traditional channel, the mail order side, the Eggheads, the discount stores, the independents. ComputerWare. Computer Attic. Typically you find knowledgeable buyers buying through this channel, and uninformed buyers buying through the traditional channel.

The specialty stores, the mail order, the non-traditional channel, they really sell what's hot. It's the best product that gets sold there. They're all intelligent.

We're now distributed through Businessland, and Businessland said one time, "Well, we just don't understand. We read great reviews about *WriteNow*, and everybody who uses it loves it, but we just don't have a lot of users knocking down our doors for it." And Heidi said, "Well, if you know enough about *WriteNow* to know that this is the word processor for you, then you know enough not to buy it at Businessland, that you can get a better price at one of the other stores."

HR: That's the nut we've got to crack. *WriteNow* always rates higher than the other products, our users love us, we've done very well in what we call the knowledgeable channel. The problem is that the very person that *WriteNow* is designed for, the novice users who don't know what they want, would be so happy to have it, are likely to never get it, because if they walk into a Businessland, *MacWrite* is sitting there, the name is ingrained. Even Microsoft *Write* didn't do that good a job in that channel.

So how do you break through that?

RF: There's different ways that you can do it, but it really starts with talking to the users, the press, everything.

[Silicon Beach's] *SuperPaint*'s an interesting example of how someone successfully cracked into the traditional channel. They had a product where all the reviews originally came out and said "Don't buy *MacPaint*, buy *SuperPaint*. *SuperPaint* is the most terrific product in the world."

And that signals to the traditional channel that uh-oh, what the end users are hearing now is not what we're telling them. That is, if somebody walks in to buy *SuperPaint*, and the traditional channel rep says, "Well, why don't you buy *MacPaint*?", he says, "Well, this guy told me not to." That's how you start it, so obviously one of the important things we're doing with *WriteNow* 2.0 is trying to get a clear message of what that product is, because in our marketplace we really feel that we're the superior choice.

HR: The problem in doing so is that we're competing against Claris and Microsoft, which seem to have unlimited resources in promoting their products. It's a very expensive proposition.

Royal Farros: "The specialty stores, the mail order, the non-traditional channel, they really sell what's hot. It's the best product that gets sold there. They're all intelligent."

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But what a company like ours can do is take a subset—"Let's focus on one particular chain, one geographical area, and get our people out there. Do the training, do the spiffs, get out there." But you'd be amazed at how many stores you can call up and say "We want to send our VP of sales, just to give you a product demo," and they don't even want to do that, 'cause they say "Why should I have to know it?"

That's what we see as the pathetic state of the industry, and we hope that the people like ComputerWare and Computer Attic will really succeed, because ultimately there's a gross misconception about software. People think it's easy enough to figure out from the back of the box which product is right for them, and it would be just as silly as going to a record store and picking an album based on the names of the songs.

You need more input, and you need a knowledgeable source of information. If we can't even get to that source to provide the information, how is that person ever going to be able to provide it to the user in turn? It's a real problem.

RF: We used to always go line up our opportunities and take whichever opportunities were easiest for us. For example, last year in the higher education market *WriteNow* outsold Microsoft *Word*. That was something where we said, "This is a terrific fit and we can get to those people." So we kind of changed our whole organization around so that we could get to those people, and we were successful. The idea is, you have to look in a global sense. You have to say, "If we're going to get university site licenses, this is not going to be one call." It's going to be a three- or four-month sales hike, so recognize that you have to set up your resources and your plan of attack in going after a three- or four- or five-month cycle.

In the same way, going after chains, there are other methodologies that you have to use, so right now we're kind of changing our organization around so that we'll be structured to go after the chains, because that's one of our last frontiers. We're even making pretty big inroads in the corporate marketplace. The corporate marketplace is very similar to the education marketplace, although it relies more on what's going on in the traditional retail stores than the education markets.

You have 14 employees. What do they do?

HR: First of all, everyone does more than one thing. One of our friends said, "You don't have a 14-person company, you have a 28-person company, it's just that each person does two full-time jobs."

We break it down into two areas, marketing and technical. But the marketing people have do time on tech support, and the technical people have to do booth duty at the trade shows. They definitely cross over a lot.

We have basically *no* administrative people. We all do our own letters and memos. We offload as much as we can—we don't do our own shipping, we don't do our own warehousing.

We tend to try to keep this organization as tight as possible, because you never know when you're going to have to change what you're doing. It's the lean and mean attitude, another of the great T/Maker concepts.

Do you think you'd ever see a product that was so spectacular that you'd want to pour all your resources into it, hire lots of people, go all-out?

RF: In a sense you're describing what we did with *Personal Publisher* and *WriteNow*, but really what we do is keep adding time onto our weekends.

HR: The problem with gearing up and staffing up, which people don't realize, is you have to spend a lot of money before you ever make it back. Which means you have to bring in a venture capitalist or bank loans or something.

We've been profitable. In a way it's a quirky kind of compliment to say that we've got two products [*Scrapbook+* and *WriteNow* 2.0] coming out, one of which is three months late and the other of which is five months late,

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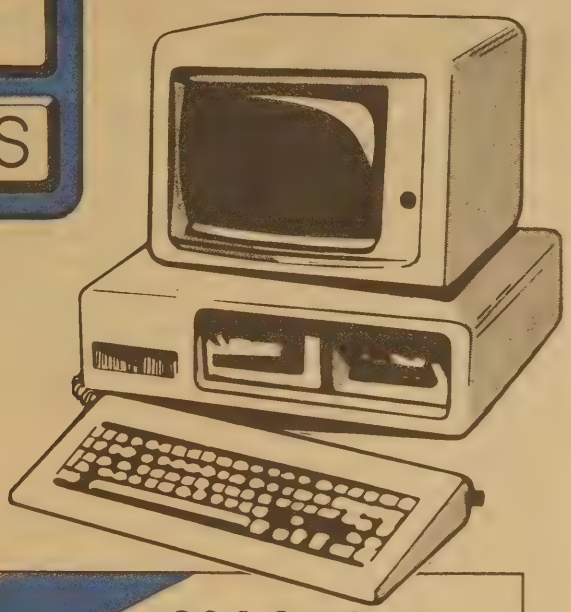

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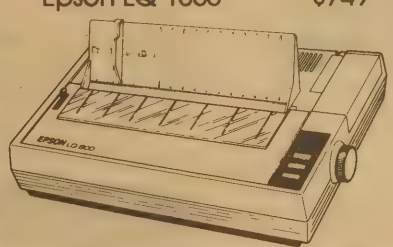

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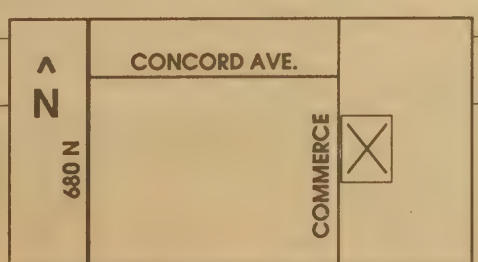

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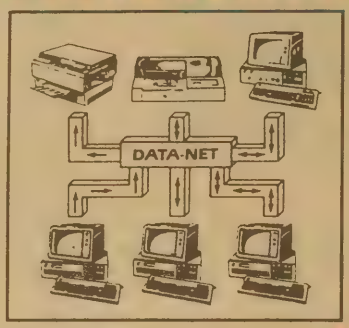
Peripheral Sharing: Make the right connections

Data Manager/Data-Net Products.



IMC products are non-intrusive and transparent to users who share peripherals such as printers and plotters. Every Data Manager product is buffered with a minimum of 256K of memory expandable to 1 Megabyte. 100% compatibility with RS-232 and Centronics interfaces. All products offer 1 year warranty.

Data Strip

NEW!

Small footprint product with RJ11 RS-232 port connections, allows 5 users to simultaneously share a single printer. Use convenient telephone twisted pair wiring to link to a unit requiring only 2" x 8" of desk space. DATA-STRIP automatically adjusts to X-on/X-off or DTR protocols, and requires no other switch settings or software.

Part No. DM06
Mfr. Sugg. Ret. $495
Special Intro. Price $450

DATA-NET 1551

Each of the DATA-NET 1551 six RS-232 ports can be individually configured for either input or output functions. The unit's resident software, operator controls and bi-directional port operation make it an extremely flexible networking product.

Part No. DM15
Mfr. Sugg. Ret. $695
Special Intro. Price $595

Data Manager Plus

Up to 5 users simultaneously share one printer or plotter. RS-232 Serial interface and connectors.

Part No. DM07
Mfr. Sugg. Ret. $595
Special Intro. Price $495

Data Manager 4 x 4

Functionally similar to the DATA-NET 1551, the 8-Port DATA MANAGER 4 x 4 combines RS-232 Serial and Centronics parallel interfacing in a single peripheral sharing unit.

Part No. DM44
4 Serial and 4 parallel ports
Part No. DM45
6 Serial and 2 parallel ports
Part No. DM46 – 8 serial ports
Mfr. Sugg. Ret. $895
Special Intro. Price $695

DATA MANAGER FEATURES	DATA STRIP	PLUS	1551	4X4
HARDWARE COMPATIBILITY: IBM, DEC, Apple, H-P, minis, micros	YES	YES	YES	YES
SOFTWARE COMPATIBILITY: DOS, UNIX, XENIX, others	YES	YES	YES	YES
NUMBER OF PORTS	6	6	6	8
Type of Port	Serial	Serial	Serial	Serial & Parallel
Input or Output	5 Inputs 1 Output	5 Inputs 1 Output	User Select	User Select
Cascading		YES	YES	YES
Speed of throughput: Maximum Speed	38.4K	38.4K	38.4K	19.2K
Maximum simultaneous speed	19.2K	19.2K	19.2K	19.2K
Speed selection jumpers	YES	YES	YES	YES
Bi-Directional throughput			YES	YES
BUFFERING CAPABILITIES: Dynamic Memory Allocation	YES	YES	YES	YES
256K RAM standard	YES	YES	YES	YES
MEMORY EXPANSION: User upgradeable to 1 Megabyte	YES	YES	YES	YES
RESIDENT COMMANDS & USER SELECTABLE CONTROL: End of Data Timeouts (seconds)		15 to 120	15 to 60	15 to 60
Software EDD command			YES	YES
Port Select Switch, Data PBX compatible			YES	YES
Next Available Port: Switch control			YES	YES
Software command			YES	YES
SOFTWARE COMMANDS: Collate, 1 to 99 copies			YES	YES
Lock-on			YES	YES
Data Hold			YES	YES
Cancel			YES	YES
Port Selection			YES	YES
Pause			YES	YES
APPLICATION SOFTWARE: EasyLAN (file transfer)			YES	YES
DUET (RAM resident software commands/spooling)		YES	YES	YES

1. Available as: (8 Serial), (4 Serial & 4 Parallel, (6 Serial & 2 Parallel)
2. Any number of ports can be switched to 1 output. Any port, serial or parallel, can be elected as an input or an output port.

Auto-T Products

Auto-T Plus

Total automatic alternative to cumbersome manual switches for printer/plotter sharing applications. Unit continuously scans input lines and forwards data from the first computer in the queue to the printer or plotter. Four inputs (serial or parallel ports) share a printer or plotter. Includes free Softspool software for background spooling and printer control; change fonts, modes, landscape or portrait print . . . all from a simple pop-up menu. LEDs show port activity; timeout selectable from 1 sec. to 5 mins. Connect multiple units to serve as many users as you need to share expensive laser printers.

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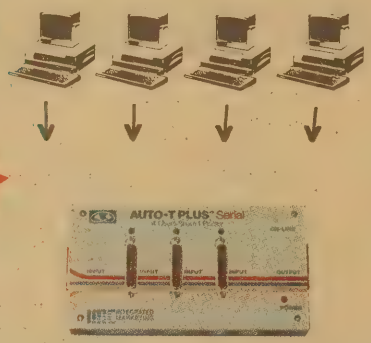

Part No. CCAT-S
5 Serial Ports
Part No. CCAT-P
5 Parallel Ports
Mfr. Sugg. Ret. $195
Special Intro. Price $169

Auto-T Data Switch

Similar to Auto-T Plus (less software), but with 6 input ports, including both serial and parallel interfacing in the same unit.

Part No.	Input Ports	Output Ports	Mfr. Sugg. Ret.	Special Intro Price
CCAT-3	3 Ser/3 Par	1 Serial	$295	**$249**
CCAT-4	3 Ser/3 Par	1 Parallel	$295	**$249**
CCAT-5	6 Serial	1 Serial	$249	**$229**
CCAT-6	6 Parallel	1 Parallel	$249	**$229**

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and we're still in business (laughs). That's pretty good—we've supported our own delay there.

RF: Other people would go out of business because of that.

HR: For example, with *WriteNow* 2.0—unlike another great Macintosh word processor company, we've had the upgrade announcement out, and we have $150,000 worth of checks and credit card orders ready to roll, which we actually went and put in a safe deposit box at the bank. We will not cash those like the other company did and keep them in some account. We don't even want to transact the business until we can actually *do* it. It's nice to have the luxury to make those kinds of decisions and be able to do it.

We *have* been staffing up, but we do it at our own pace. We're currently 14, 15 people, a year ago we were probably 10. We'll probably be 20 by the end of the year, because we're going to accommodate the *Windows* stuff. We're moving into office space that's double the size of this space. We're doing things, but at our pace. I honestly can't imagine any product for which we would have to staff up and believe that we could honestly accomplish it.

I think that people fool themselves when they think, "If I just had twice as many people I'd take on Microsoft." I look at it this way—we took on Microsoft, and we managed to ship whatever we're up to now—60,000 copies of *WriteNow*.

(laughs)When *Write* came out—we're pretty good friends with some people up there, and they let us know in August that they were going to ship this *WriteNow* killer in November. And it didn't really do us any damage.

RF: That goes back to where our strengths are. We think if we have a superior product people buy us for a reason. We actually went up, relative to *Word*, when *Write* came out.

The person who decided to buy us, *Write* wasn't going to change their mind. They had already made a conscious decision to buy us.

We believe that *Write* stopped selling in the marketplace because all of a sudden what reviewers started saying was,"Well, you buy it for $175, and for $220 more you can get *Word* 3.0. For $249 or so street price, you can buy *Word* anyhow, so if you think there's going to be any possible chance of your going up to *Word* 3.0, buy *Word* 3.0 and use Short Menus." So what they're finding is that people are opting for *Word* and not opting for *Write*, because they look at the products as being so similar as to be unnecessary.

Heidi, you're the president of the Software Publishers' Association this year. How does your experience with T/Maker relate to the industry as a whole?

HR: I think we need organizations like the SPA, particularly the smaller companies and the niche companies. Why reinvent the wheel? It's a great information resource for developers and publishers to learn things about other publishers—the data report, knowing what kind of software is shipping in what volumes, the information about who's shipping 3 1/2 diskettes with the 5 1/4s in the IBM products, the salary surveys. As a proponent of industry issues it's great, and as a publicity vehicle to promote the awareness of the software industry.

I see us working in conjunction with organizations like the Software Entrepreneurs' Forum; I'm also on the advisory board of SEF, because I really believe that the needs of the developers are different from the needs of the publishers, but they need to interact. I joke about it with those guys that it's sort of like sororities and fraternities, but nobody ever likes that analogy.

I think this is a wonderful industry. First of all, there's so much profit margin in it relative to the actual hard costs, and there's so much growth potential and there's so much ability, and in fact *necessity* at this point, for all of us to work together. I mean, you go try to sell a Mac product that's incompatible with every other popular Mac product and see how far you get.

Things like format standards—silly little things like a clipboard standard for Encapsulated PostScript in the *Windows* world. As silly as that sounds, since nobody bothered to do it, and there are like five companies that probably should have done it, they're probably going to end up with five formats unless we all sit down as a group.

My goal in the SPA is to promote the concept that in spite of the fact that we all compete against other, there are many, many ways to cooperate.

If you're approaching your business morally and ethically, you can be a competitor with someone and still cooperate. Look at us and Microsoft—we joke a lot that the reason they've been pushing us so much in the *Windows* market and helping us so much is that they want to distract us from *WriteNow*. They know we're so small we can only do so much..

There's so much growth potential in the industry, why not capitalize on it? Instead of eating each other's market share, I'd rather be expanding the market and letting us all benefit from it. (T/Maker Company, 1973 Landings Drive, Mountain View, CA 94043, 415/962-0195.) □

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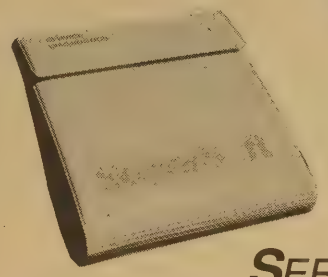

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PTS chooses one package in each application category to support with training packages. Shown here: PageTutor, which teaches PageMaker 3.0 skills.

Personal Training Systems: Macintosh Training For The Business User

By Tony Rocco

Not long ago, no one thought training for the Mac was necessary. The computer "for the rest of us" was so simple and brilliantly designed that it required very little formal instruction to use. And the software—MacWrite and MacPaint and such—anyone with the smarts of a tomato could pick those up with a few hours' work and a manual that could be read in less time than it took to check Sunday's football scores.

Not so today. The computer "for the rest of us" is becoming the computer for serious business applications, professional publishing, award-winning graphic design. Although even the new-fangled Mac II can be learned a lot more easily than anything Big Blue or its minions have brought to market, the software has made warp factor leaps from MacWrite simplicity to Illustrator '88 and Excel complexity.

Enter Personal Training Systems. With an early sense that the Macintosh wasn't destined to become a plaything for the masses, Susan Barton, a computer consultant and trainer, began making training packages for increasingly complex—and business oriented—Macintosh software from vendors like Microsoft and Aldus. Having an understanding of training and the shortcomings of products already marketed in the field, she began producing interactive learning packages consisting of on-disk exercises and step-by-step learning tapes.

Susan Barton founded Personal Training Systems in response to the burgeoning need for self-paced modular training packages for Macintosh applications.

The idea took off. Today her company's patented learning packages, which sell in modules for about fifty dollars each, are in high demand. About 50,000 of them are already out there. Software vendors are clamoring for training packages for their new products. Consumer demand is increasing at a rate of about 25% a month. With PTS poised to enter retail outlets from coast to coast, and make foreign agreements with Apple Australia and Apple Europe, MicroTimes interviewed Susan Barton about the past and future of Personal Training Systems and the Macintosh.

What do you find lacking in other self-paced training lessons?

The main component that they lack is participation by the student. Most of them have you passively sit there and watch, or passively sit there and listen, for quite a long time; then you turn off the training materials and go over to the computer and try it. What we've found is the retention rate for that kind of training for an hour long training session on a video, at best, is about 20%. That is one major problem.

I've found in my experience that the best way for someone to learn something complex like *Illustrator* is to find someone who already knows it. But I don't want someone just showing me. I want my hands on the keyboard with someone telling me what I need to know. And I want to try everything while he is still there so I know how to do it. So all we did was capture that kind of training session on tape.

That's why we have very "low-tech" equipment, with you actually sitting in front of the computer and doing, seeing and running all at the same time. You're actively involved. Your retention rate with our type of system is up in the 80% range. There's too much to learn about a computer system to watch for a long period of time and then go try to do it.

What kinds of products were out there when you got started?

There were a range of products. Video is a very popular training medium that I don't think is very

"I don't want someone just showing me. I want my hands on the keyboard with someone telling me what I need to know. And I want to try everything while he is still there so I know how to do it."

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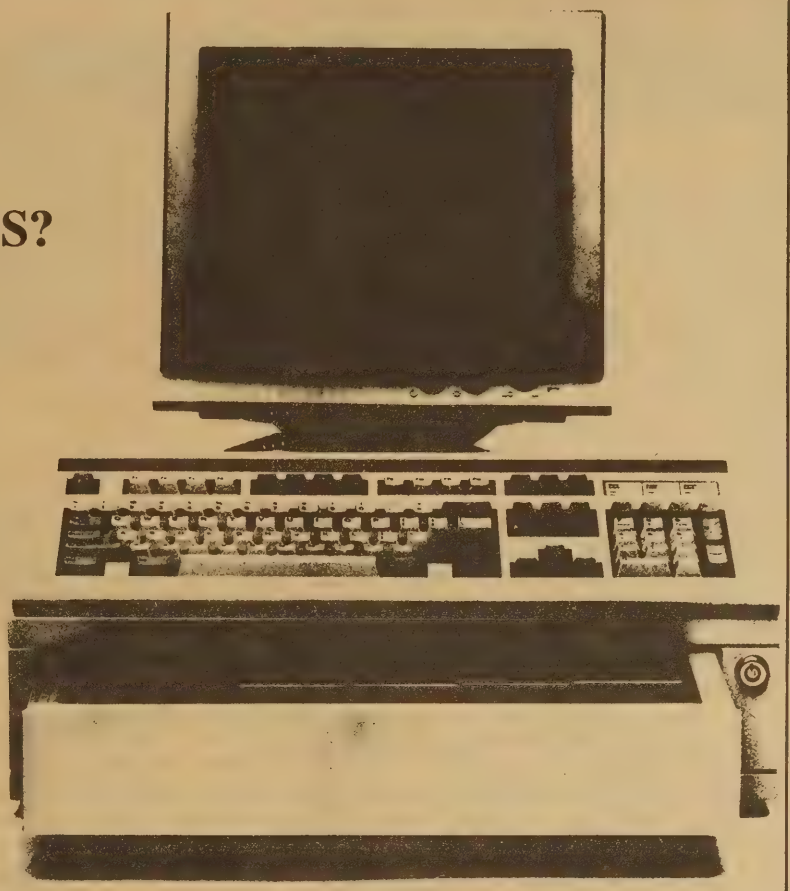

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effective. There were some audio products as well, but none quite like ours. What I did was look at all these different things and come up with ideas on how we could do it better and more effectively. And the synthesis of all of that is the product we've built.

Why is your tape method superior to following the steps in a written tutorial?

What we've found is that they are a good start. Even if a tutorial is 150 pages long, it usually goes into just a very few of the features. By the time it gives an explanation of it, a screen shot of it, a few step-by-steps, you've learned just very, very basic material. They give you a basic introduction and then they stop. What we try to do in our training is show you everything you need to know from start to finish without picking up the book, and go a lot farther than any tutorial.

Our courses are short, they're only ninety minutes long, but they're at different levels, beginner, intermediate and advanced. We designed them so that if you're going to be a casual user, beginner is all you need. But if you want to become a powerful user, you can go on to the other levels. And we teach you 90-95% of what a program can do.

People seem to resist books and manuals, don't they? What's the problem there?

I find that you're right, most people do not want to read books or manuals. Especially Macintosh users. We're the only training company dealing only with the Macintosh, so I understand Macintosh users. Macintosh users hate to read books. One of the things that attracted them to the Macintosh in the first place was its ease of use. On the other hand, if the Mac is so easy to use, why do people need my training?

I was going to get to that.

Initially when I looked at the Mac, *MacWrite* and *MacPaint* really did not need the type of training I had in mind. The machines became more powerful and software vendors began writing software to take advantage of that power, with the result that the software is a lot more capable, but it is also a lot more complex. In beginning Macintosh programs, you could poke around the menus and figure quite a few things out about the program. Today, there are so many hidden shortcuts and tools that you just can't figure out everything by looking at the menus. You might take advantage of only 10% of what the program truly can do.

We provide training for those high-end business packages that really do need training to get you up to speed quickly.

Why should a business buy your tapes rather than have someone come in and conduct a class? How is it more cost effective? How is the learning any different?

The learning is quite different. If you bring somebody in, and I used to be brought in so I'm very familiar with that, many companies don't have a training room set up. We've got to take people's Macs away from their desks, set them up in a special room because you certainly want to train more than one at a time if you are paying high rates to bring someone in for training. You have to get everyone who wants to be trained on a particular package together at one time. That's one of the problems; if you have a company of 100 people, and 25 of them use Macs, chances are pretty good that they're all going to want to learn different things, and that they'll be at different experience levels. It's very, very difficult to teach a class if this person has never seen a Mac before, and this one wants advanced *PageMaker* training, and that one doesn't really care about *PageMaker* at all but wants *Excel*; and that person needs Microsoft *Word*.

So one of the problems of bringing training in-house is that you have to find enough users who want training on the same thing, who are on the same level, and you need a room, and you need the Macs. And then the quality of the training is only as good as the person you hire. Some people are very, very good Mac users and terrible trainers. Say you do bring someone in, pay him $600 to $1000, have him train six or eight people, and then you hire somebody new next week. You've then got to either bring the trainer back in or send the employee out.

With our courses, because you can use them on your own and we have so many different levels to choose from, even if you do have a whole room full of Mac people, it's great, they don't all have to be at the same level.

What about the interaction you have with the instructor? Isn't that an advantage?

That's an excellent question. That's the biggest potential drawback of any self-paced training: what if you need help? For one thing, we offer free, unlimited telephone support. But with over 50,000 packages out there, we only average six to ten calls a week. The reason is that we thoroughly test our courses before we ever release them.

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And we do that several times. We do the initial course writing, we bring people in and test it over and over again 'til we stop hearing new comments. Then we do a major rewrite of the course. Then we bring in another group. And we put them through until we stop hearing their comments, do another rewrite, and repeat that process until we bring 10 brand new users in that can go through the course without any questions. And they can complete the exercises. Then we know the course is clean enough to release.

What are your most popular tapes? What do businesses want the most?

We don't have one runaway winner. *Excel* is popular, but so is *Word* and so is *PageMaker*, and so is *Illustrator* and so is *HyperCard*. So are the Macintosh courses themselves. We develop courses only for the business market, or that we think will be very popular business packages. And they all seem to fare pretty well.

Why not make these kinds of training packages for the IBM market, the PC being a more popular business machine and a lot harder to use than a Mac?

A study shows that the average IBM user uses two to three applications; the average Mac user uses six to eight. If I was trying to sell training to an IBM person, if he had two training copies, he'd be done. The Mac user has much broader needs. Plus, I've been in love with that machine ever since it came out. I'm one of those Mac fanatics.

Are your learning packages having an impact on gaining more acceptance for the Macintosh in the business world?

Yes, I think so. But more importantly, the software vendors think so. Almost all the major software vendors are coming to us and saying, "Please do training for our package." If they have a training package, they have a competitive advantage the others don't. I don't know if you noticed, but we only do training on one software package per category. We only have one word processor, one desktop publishing package, one drawing program, and so on. We pick the best product in each market and support it.

The software vendors are doing a lot of marketing agreements with us to entice us to do training on their packages. For example, Aldus knows how successful our training has been helping with *PageMaker*. They recently asked us about six weeks before they announced *Persuasion*, saying we have this new product [a desktop presentation package] and would like to have our training available for it. They asked us how they could get us to decide to do training on their package.

Well, first of all, we thought it was a tremendous package. So we said we'd like coupons in each box. All the software we support comes with coupons in each box because the software vendors think so highly of our training packages. When Aldus announced *Persuasion*, they also announced that we were doing training for it.

"Macintosh users hate to read books. One of the things that attracted them to the Macintosh in the first place was its ease of use."

Have you or any software manufacturer thought about bundling your training packages with software?

We're working on it. We don't have any agreements yet.

Who are your competitors? I assume there are others out there making these kinds of training tapes.

No. We developed this approach. It is our unique approach. Manuals are a competitor. Classes are a competitor. But we're pretty much alone in what we do.

What applications do you plan to make training packages for in the future?

I can't talk about too many. I hate to preannounce.

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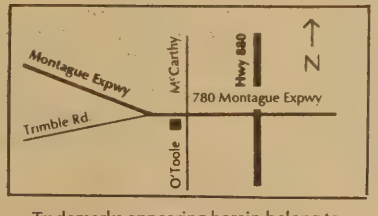

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One of the things I personally don't want to be known for is vaporware. In the next few months, we're introducing the training for *Persuasion*. What we try to do is develop our training during the beta stage of the development of the software. We're upgrading *Works* because at Macworld Microsoft announced *Works* 2.0. We're upgrading for *Word* 4.0. That's all I feel comfortable talking about.

How about general categories?

OK. If you look at our existing offerings, you notice some major holes. For example, we don't have anything for database products.

FileMaker 4—would that be in there?

It's possible. It's certainly one we've gotten a lot of requests for. There are other holes as well. Desktop presentations is a hole; we're now filling it.

Have you thought about foreign versions of your lessons?

We're still a fairly small company, so I don't think we could serve a foreign market very well from San Jose. What has happened is, foreign companies have come to us. For example, we signed an agreement last fall with Apple Canada; they have exclusive rights to our products in Canada. Now, they didn't leave our name on it. They actually thought it was good enough that they wanted "Apple" on it. They're called the Macintosh Learning Series up there. It's the first time Apple Canada ever private labeled any third party product. We're about to sign a similar agreement with Apple Australia. And we've had a lot of interest from the Apple people in Europe. They will take on the responsibility of translating for us.

How many units do you sell a year or a month?

We have sold 50,000 directly ourselves. The demand for training classes is growing about 25% a year. The demand for our training packages is growing by about that percentage a *month*. There is a solid demand for good quality training out there.

Are your courses available through most software stores and computer stores?

Not yet. Most of our business still comes directly through us. We've just been picked up by Egghead Software. They just started getting them. But right now we are not in most retail stores. We were in the Icon Review catalog until they went bankrupt. But we want to be in retail stores everywhere. That's why we are so pleased with Apple Canada. Because it's an Apple product, they have it in every single solitary Apple retail outlet in Canada.

What do you foresee for competition in the future? Are people going to try to steal your concept?

That's possible. Now, our concept is unique; we developed it ourselves. It is legally protected. Our look and feel is already registered.

You mean that if someone else came along with a disk full of exercises and a cassette tape telling them what to do, that would be illegal?

We would have the legal grounds to fight them. Our first concern was, what's going to stop anyone else from doing it? One thing that's stopping them is that the IBM installed base is so much larger than the Macintosh installed base. So a lot of people thinking, "Well, which market will I serve?" hopefully will go with the IBM market.

"In the next few months, we're introducing the training for Persuasion. What we try to do is develop our training during the beta stage of the development of the software."

Who actually makes the tapes?

Well, I am the course designer. I actually do the writing and designing of the course. We have professional announcers play the people that you hear.

Is the Mac destined to make serious inroads into the business market against IBM?

It is extremely successful to this point. It's to the point that IBM can't ignore it any more. If you look at sales figures each month, Macintosh now has a larger market share than IBM. Not than IBM and all its clones, but IBM. It's now proven itself. (Personal Training Systems, P.O. 54240, San Jose, CA 95154, 408/559-8635.)

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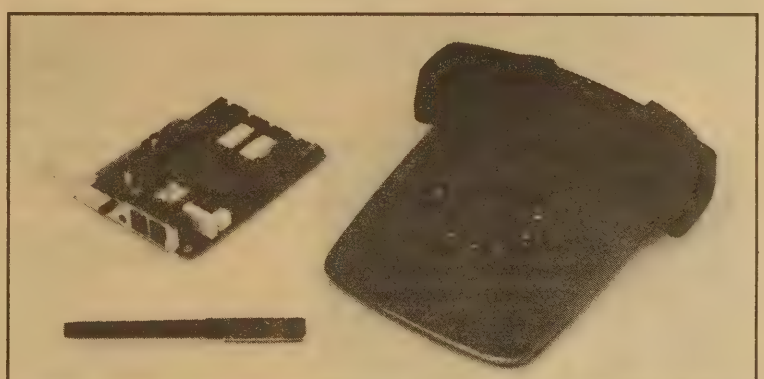

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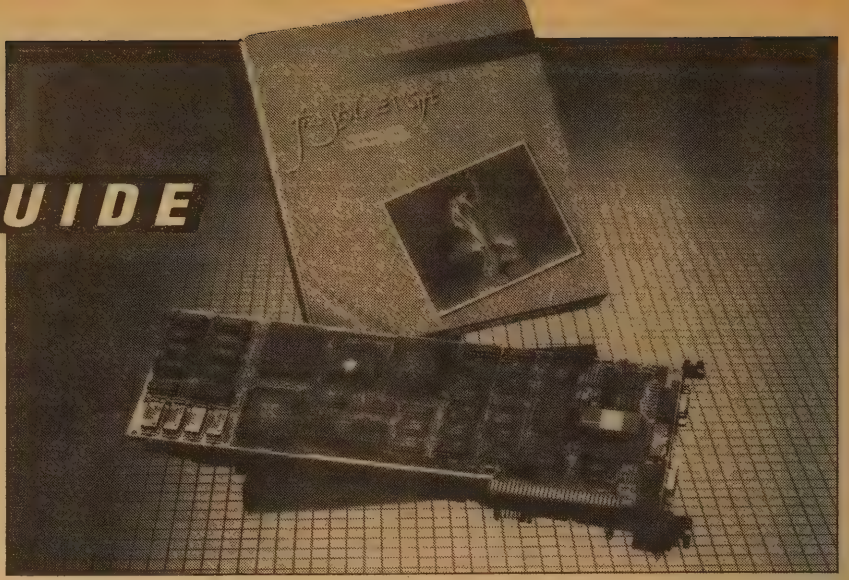
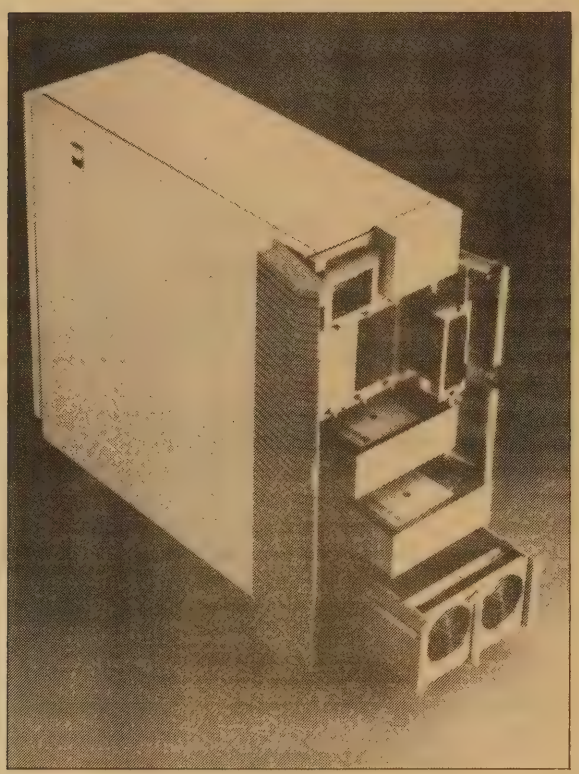


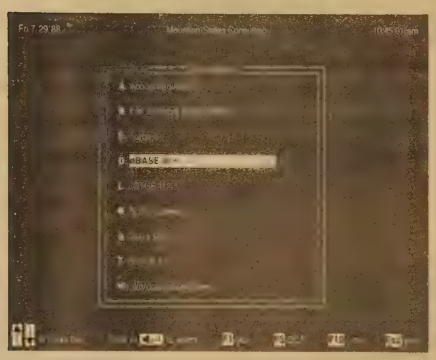


Color Graphics Package Brings Low-Cost Targa Format To The PC

FreeStyle EVGA is a graphics software package taken from the Targa environment that provides features identical to Targa-type software at a lower cost. *FreeStyle* takes advantage of the EVGA's 256 color, 512 X 480 resolution. This special, high resolution VGA mode maintains compatibility with the Targa video standard. *FreeStyle* and the EVGA display and edit digitized images in Targa format, and come with graphic design tools including fonts, custom shapes, color cycle animation, tinting and washing capabilities and a pixel blending feature to smooth jagged edges. Detailed image editing is possible with a hardware-based, instantaneous 2X zoom and a smooth panning feature. The EVGA supports all 17 VGA modes and is compatible with EGA, CGA and Hercules. (*FreeStyle*: $299; EVGA: $399.) Everex, 48431 Milmont Dr., Fremont, CA 94538. (415) 498-1111.

Rexon Makes Move Into LAN Market, Introduces 386 File Server

The new Summit 3200 file server from Rexon Business Machines is a 80386 based machine that supports fault tolerant operation under Novell's NetWare 2.01. A floor standing device with a modular chassis, the Summit 3200 is based on a 16MHz 80386 processor with zero wait states. Base configuration includes the CPU, 1Mb of RAM, a 12-slot PC AT bus and a 300 watt power supply. Up to eight 244Mb 5.25 inch SCSI disk drives can be installed in the system for a total of 2Gb of storage. The Summit 3200 supports the fault tolerant node of NetWare using two disk channels to write mirrored data to dual disk drives. A second 386 CPU can be configured as another node network, a gateway to a mainframe, a second network or as a dedicated print or communications server. Rexon Business Machines, 5800 Uplander Way, Culver City, CA 90230. (213) 641-7110.



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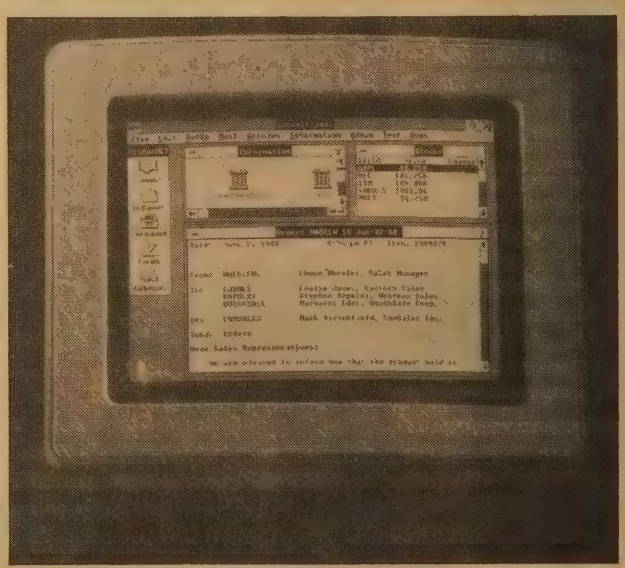
PC/MacNET Brings Connect Online Services To The PC



Connect Professional Information Network services like electronic mail, public and private information forums and stock quotes, formerly available only to Macintosh users, are now available to the PC user with software from Connect, Inc. *PC/MacNET* works on all IBM or 100% compatible machines . It enables the user to access all of Connect's services including information libraries, Standard and Poor's market quotes with an option for auto-alert for market changes, keyword searches of information library contents and online search of user electronicmail addresses. The basic 20 ID pack includes a free private information forum and Connect's *MacNET* software. Evaluation units can be purchased for $74.95; each package includes software and one hour of connect time. Network connect charges are $8.00/hour from 7 am to 7 pm Monday through Friday with lower fees for non-peak hours. ($1499/yr.) Connect, Inc., 10101 Bubb Road, Cupertino, CA 95014. (408) 973-0110.

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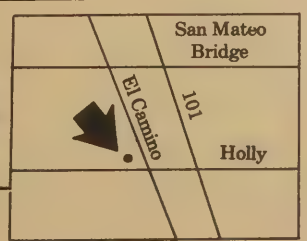

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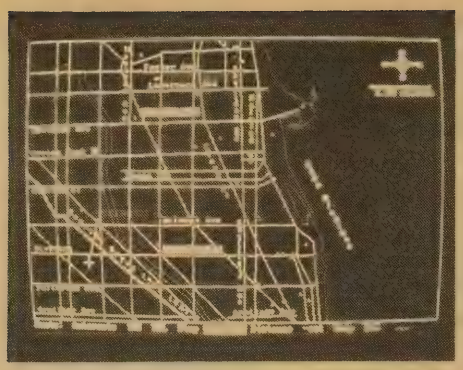
PC BUYERS GUIDE

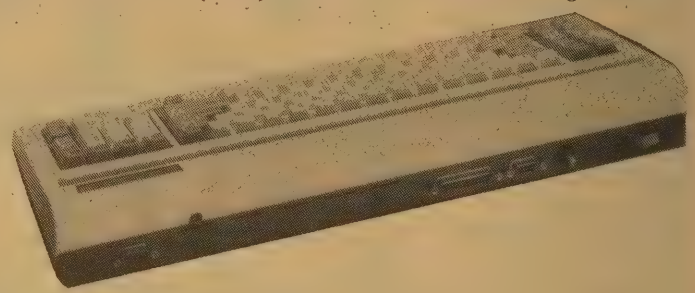


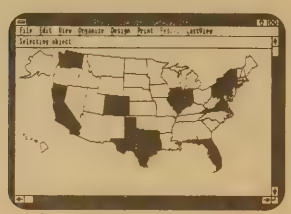
New SPOT MAPS Give Detailed Information On Streets, Addresses

Users of *STREETS* 2.0 or later versions can now find their way around Chicago, Los Angeles, San Francisco and other major cities more easily with *SPOT MAPS*, a series of detailed street maps that enable users to locate an address by simply typing it in. In addition to roads and highways being given, coast lines, lake, school and park boundaries and highway on- and off-ramps are shown. Maps are based on the 1980 census maps. Street maps for areas with rapid growth may require updates/edits. Custom maps are also available. ($20 each.) Klynas Engineering, PO 1666, Simi Valley, CA 93062. (805) 583-1029.

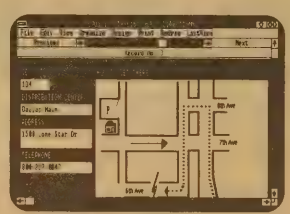
ARCNET Station Reduces Security Concerns On A Network

The danger of someone on a network taking confidential information away on floppies or diskettes is reduced with the Arcnet Station, a device with the power of a PC in an AT-style keyboard. This unit has no disk drives and cannot accept any. It comes equipped with a built-in ARCNET interface that is fully compatible with SMC, 768K of RAM and a video adaptor compatible with monochrome, CGA and MGA monitors. Arc Station will run any ARCNET operating system including Novell, Network-OS and Vianet. ($995.) Black Box, PO 12800, Pittsburgh, PA 15241. (412) 746-5500.

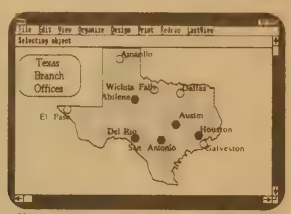




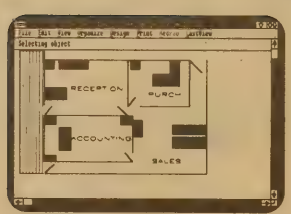
Show all states with 5 or more branch offices.



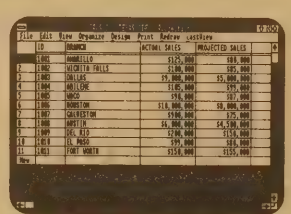
Use form view to display information about a branch office, including how to get there.



Highlight all branch offices with sales over $3 million.



Design a new branch office by arranging furniture and equipment on your screen.



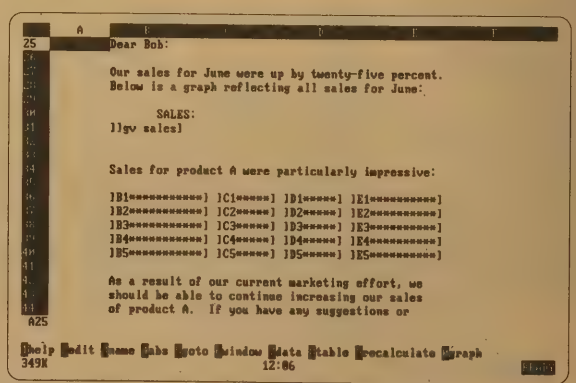
Use table view to compare sales figures for all branch offices in a state.

VP-Planner Plus Spreadsheet Now Features Background Recalculation

Release 2.01 of *VP-Planner Plus*, a spreadsheet, graphics, database and report-generating program, now features background priority recalculation to allow making new entries or commands without waiting for a calculation to be completed. Another new feature of release 2.01 is its Undo/Redo capability, a function that facilitates "what-if" analyses by allowing the user to back out of changes made to a worksheet. The File Import Parse command allows data from fixed field ASCII files to be read directly into worksheets. Worksheet Autokey Transcript commands enable recording of keystrokes into a disk file which can later be executed to re-create the sequence of keystrokes into other worksheets, or to recover work lost after power failures. ($179.95.) Paperback Software, 2830 Ninth Street, Berkeley, CA 94710. (415) 644-2116.

OPUS I Brings Hyperdrawing Capabilities To The PC

OPUS I from Roykore Software is a hyperdrawing program for the PC that allows a user to point to one part of a picture, such as a map divided into regions, and bring up other related pictures or information. *OPUS I* is meant to provide an easy means of managing graphic and text information for business and educational purposes. The application could be used to manage a company's sales offices by linking a number of images showing different sales regions. Pointing a cursor at an image on-screen, such as a symbol representing an office location, would display information about that office. Sales figures, personnel information or even a floor plan could be displayed. A complete set of drawing tools for creating technical diagrams, maps, floorplans and flow charts is provided with *OPUS*. Bitmapped images and graphics from *PageMaker*, *Windows Paint* and *Windows Draw* can be inserted. The application runs under Microsoft **Windows** 2.0 and **Windows**/386. ($395.) Roykore Software, Inc., 749 Brunswick St., San Francisco, CA 94112. Stuart Tunick, (415) 333-7833.


Dear Bob:
Our sales for June were up by twenty-five percent.
Below is a graph reflecting all sales for June:
SALES:
]]gv sales]
Sales for product A were particularly impressive:
]B1==========]]C1=====]]D1=====]]E1==========]
]B2==========]]C2=====]]D2=====]]E2==========]
]B3==========]]C3=====]]D3=====]]E3==========]
]B4==========]]C4=====]]D4=====]]E4==========]
]B5==========]]C5=====]]D5=====]]E5==========]
As a result of our current marketing effort, we
should be able to continue increasing our sales
of product A. If you have any suggestions or
A25
Help Edit Name Tabs Goto Window Data Table Recalculate Graph
349K
12:06

Screen dump of layout for the report generator (/Tools Text). "]]gv sales]" references a graph named sales. "]B1==========]" references cells containing values in the worksheet. Tools text can reference graphs within a worksheet, graphs saved to PIC file format, ranges of cells, and specific cells. It also supports embedded printer codes.

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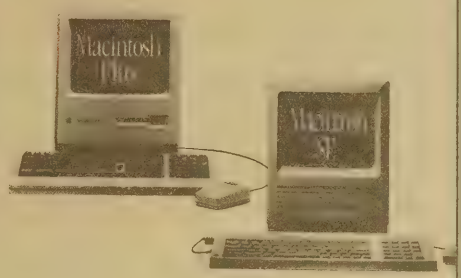

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BASIC TUTORIAL (208) Learn programming with BASIC.
BEGINNING SPANISH (211) Tutorial
BIBLEQ (214) The Bible with this question-answer tutorial.
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PC-TYPE+ (421-423) (3 disks) Excellent. Has mail merge, 100,000 word spelling checker. Interfaces with PC-File +, PC-Style.

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EZ-SPREADSHEET (509) Easy but powerful. For the beginner.
PC-CALC+ (512-514) (3 disks) Jim Button's famous Lotus clone.

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PC-PAYROLL (714) Menu driven payroll system.
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PC-FILE+ 2.0 (801, 805, 837) (3 disks) Rated better than dBase III+ by Consumer Reports.
PC-GRAPH (802) Creates graphics directly from PC-FILE.
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The GRiD 1520 Laptop:

High-End Functionality For The Power User

By Ed Kahn

The GRiDCase 1500 offers top-of-the-line performance and modularity to the laptop power-user.

If laptops are a niche within the personal computer industry, GRiD has carved out a niche within a niche. Founded in 1980, the company has targeted field professionals who spend a lot of time away from their office, but need the power and flexibility offered by desktop PCs. Their newest entries, the 1500 series, continue the tradition and reach new levels of achievement.

It is fair to say that no other laptop offers the versatility of the GRiD 1500. But it is also necessary to point out that when you talk GRiD, you are talking top-of-the-line with a correspondingly steep price. GRiD has positioned itself to serve a segment of the market that doesn't mind paying more for hardware at the outset, reasoning that the product will be cheaper in the long run because it is designed to be expanded and upgraded throughout its life. And because of the market that GRiD has targeted, street prices are not a realistic possibility. The company has a network of direct sales offices located in twenty cities throughout the United States. In addition, there are subsidiaries in countries around the world.

The GRiDCase 1500 series comes in two basic configurations: the 1520, which is an 80286 machine running at 10 MHz with a list price of $3495; and the 1530, an 80386-based machine which runs at 12.5 MHz and carries a list price of $4695. The 1520 can be upgraded. I was sent the 80286 unit for review, so I will deal only with that model. My understanding, however, is that all of the same options are available for either computer.

In addition to the basic unit, you must purchase an operating system. GRiD uses MS-DOS 3.21 configured specifically for its equipment, so it is not possible to use an operating system from any other computer. But although the operating system is uniquely customized for GRiD, it is without idiosyncrasies, so there are no irregularities to accommodate.

When buying a GRiD, the first choice you must make is which format you prefer for the operating system. It is available in either a standard diskette format or as a ROM chip which plugs into one of the two ROM receptacles located just above the keyboard. GRiD has designed the machine to take the ROM chips that it offers or to hold custom designed chips that meet specific needs of customers.

With the computer and an operating system, you have a fully functional system. Quality is in evidence at every turn. The computer is housed in a rugged magnesium case, rather than the more common plastic. Included with the basic unit are a 10" backlit LCD screen, two 1.4 Mb 3 1/2" diskette drives, a 110/220 volt power supply, all of the ports you would expect and one megabyte of RAM. The additional RAM can be configured as either extended or expanded memory. The unit also includes well-written, straightforward documentation.

The real beauty of the system is in the range of available options. In addition to the screen that comes with the unit, there are three upgrades available: an enhanced LCD display and two gas plasma screens. All displays have 640 x 400 resolution except for one of the gas plasma units which has 640 x 200. My unit had the upgraded LCD display which shows crisp blue letters on a gray background. The higher resolution of the LCD allows you to run applications like Microsoft *Windows* when in the field.

Although the GRiD is listed as a portable and weighs only twelve pounds, to make the unit fully functional as a battery operated machine it is necessary to buy accessories. The removable battery pack is a little larger than a pack of king size cigarettes. The design of the power system is the best I have seen. The back of the computer has a recess that can hold either one of the batteries or the AC power supply which comes with the machine. It is literally a snap to remove the power supply and replace it with a battery. In addition, you can leave the battery in and use the AC power supply as a charger or to directly power the unit by connecting a line between the power supply and the computer.

There's also a whole range of other power accessories available to take care of any particular use you have for the machine. The same recess that holds either the AC power supply or a battery can also hold other expansion modules. These include a VGA video controller expansion cartridge and an

GRiD has positioned itself to serve a segment of the market that doesn't mind paying more for hardware at the outset, reasoning that the product will be cheaper in the long run because it is designed to be expanded and upgraded throughout its life.

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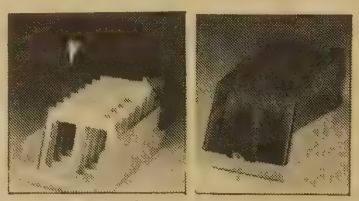

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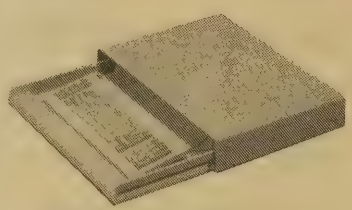

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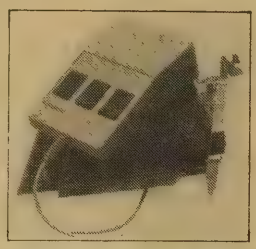

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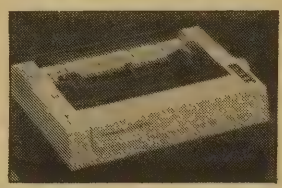

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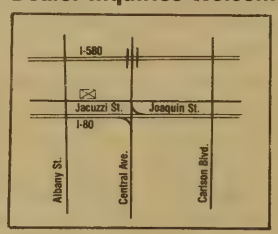

R E V I E W S

Ethernet network expansion component.

The list of options goes on and on. Although the GRiD comes with one megabyte of RAM as a standard configuration, it can be ordered with or upgraded to as much as eight megabytes. And of course arithmetic coprocessors are available.

There are also a number of options available in the disk drives that come with the machine. The base price includes two floppies, but you can order the unit with one floppy and an internal 20 Mb hard disk, or with no internal floppy drive, but a 40 Mb internal hard drive. Should you choose the latter setup, you will probably want to purchase one of the external 3 1/2" or 5 1/4" floppy drives that GRiD offers.

GRiD claims to have created a laptop with no compromise in performance. They are right, because their accessories include an expansion chassis that will hold five full-length PC cards. In a sense they have designed the ultimate computer, because it can function as a fully configured desktop machine when in the office and double as a super-powerful portable in the field.

Using the GRiD as a fully configured office machine, you can use any monitor you like and attach any AT-compatible keyboard to the port on the back of the machine. In the field, you can use an optional numeric keypad, if you prefer it to the numeric keypad embedded in the 72-key keyboard.

Although the built-in keyboard performs all of the required functions, I found it a weak spot in this dream machine. I did not like the layout, with the control key in an unfamiliar place and the CapLock key occupying the spot in which I kept hoping to find the control key. I also would have liked some indicator to let me know if the CapLock key was on. So often, after not finding the control key where I wanted it, I suffered the additional inconvenience of finding too late that I had typed a bunch of material in upper case. My final complaint with the keyboard is that the little tactile indicators on the f and j keys to tell me that my fingers are in home position are missing. Over the years I have come to rely on these guides.

One of the most important options for people who use their GRiD in the field is an internal modem. Both 1200 and 2400 baud models are available. You can use any software you choose on these Hayes-compatible models, but *Crosstalk* is available from GRiD as a plug-in ROM that is easily installed by the user.

The modems come configured for use with *Crosstalk*, but they are easily reset using the Mode command. The internal speaker gives enough feedback to let you know what is happening.

In addition to the accessories and options we have discussed, there is also a wide selection of products ranging from a choice of three carrying cases to an automobile/boat adapter cable and a portable tape backup system with its own power supply. GRiD offers everything! Their accessory price list includes a cable that enables you to transfer files from a desktop PC to the GRiD, as well as a portable printer with the necessary cables.

The GRiD, as we have pointed out, is not designed to compete with less expensive portables. The GRiD buyer is paying a high price for a quality product that is designed to give years of uninterrupted service. To this end, the company offers a unique array of service contracts that range all the way from an extended warranty contract that continues the 90-day guarantee through the first year up to a loaner program that insures that you will not be inconvenienced more than a day or two in case of breakdown. GRiD also offers a range of annual maintenance programs that can extend these coverages throughout the life of the computer.

In this review, I have not detailed the prices of the accessories and options available. Perhaps the best way to illustrate the costs is to price out the evaluation unit that I was provided by GRiD. My unit came with an enhanced LCD display, 20 Mb hard disk, 1200 baud modem, disk-based operating system and one rechargeable battery. The price tag on the unit comes out to $5580.

GRiD established itself in the laptop market as the quality leader almost from its inception. Government agencies as well as large corporations have long relied upon these computers. In the spring of 1988, GRiD was purchased by Tandy—long considered the leader of inexpensive laptops. The marriage should be interesting, as GRiD is insured its continuing autonomy under the new arrangement, but will have access to the broader resources of the Tandy organization with its many retail and service centers. It will be an interesting development to watch. (GRiD Systems Corporation, 47211 Lakeview Blvd., Fremont, CA 94537-5003 (415/656-4700.)

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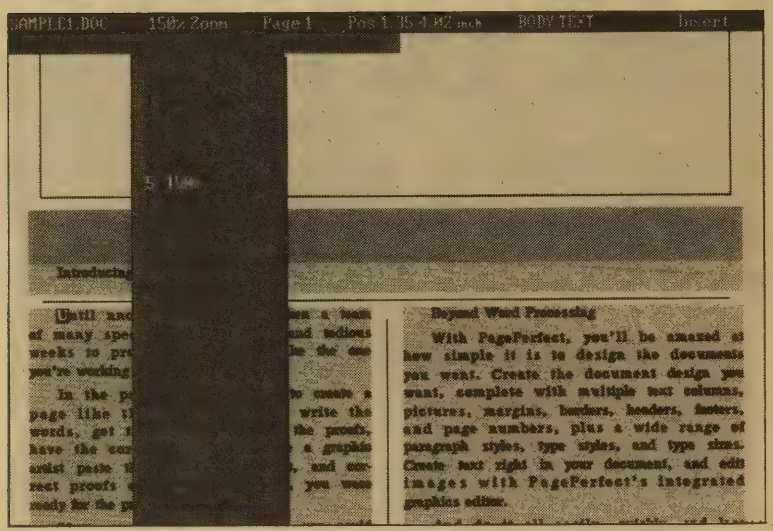
PagePerfect

Mid-Priced Desktop Publishing For The PC

By Lenny Bailes



PagePerfect supports a variety of page display options.

IMSI's desktop publishing package, *PagePerfect*, offers a mid-priced alternative to some of the relatively entrenched programs such as *Ventura Publisher* and *PageMaker PC*. *PagePerfect* is software for use with a 286 machine, EGA display, and HPLaserJet+/DeskJet printer or JLASER card (Tall Tree's JLASER card makes several other laser printers run transparently and may allow you to use them with IMSI's JLASER driver). Epson and Toshiba 24 pin drivers are also included. PostScript support is currently lacking but promised for version 2, which is scheduled for release in October 1988.

PagePerfect will run with most AT-compatible BIOSes, though some minor bugs have been reported with DTK. If you want to do desktop publishing with a Hercules Card on an XT, you'd better stay with *Ventura*, *GEM Desktop Publisher* or *Byline* for now. But if you've got the hardware for *PagePerfect*, should you consider its integrated approach to graphic document production?

If you decide to implement a desktop publishing system for either personal or professional use, there are some basic questions you'll want to answer:

1. How powerful a system do you need? Are you going to be doing commercial graphics which require sophisticated, innovative effects like logos, rotating text, vector-based artwork, etc.? Are you going to be striving for a new look in each publication or doing bread and butter work? In the latter case, you might be able to use a few standard templates to produce all your documents.

2. How does your chosen software package's ease of use compare with its creativity/productivity capabilities? Do you like to work with a mouse? Do you have a solid grasp of your operating environment or prefer to have the program lead you around through hierarchical menus?

Will *PagePerfect*'s file manager and function-key command interface suit you as well as *Ventura*'s trusty mouse? *PagePerfect* imports standard word processor files (retaining underlining and bold formatting). It uses stylesheets, has automatic hyphenation controls, flows text around pictures, draws boxes and column rules, installs with two fonts (Helvetica/Times) and offers the Bitstream Fontware option (no HP Soft Font support). It crops and scales pictures to 1/100th of an inch, allows some leading and tracking in text blocks and generates automatic headers and footers.

What's missing here? You don't get *Ventura*'s footnote support, index/table of contents generation or linked chapters. The paragraph styles don't offer quite as much control of leading between and within paragraphs. The graphics capabilities can handle only bit-mapped Dr. *Halo* - DPG .CUT files. In tradeoff, you get a user friendly scanner function and mid-range wordprocessing with find/replace, spelling checker and thesaurus. You also get a few powerful features which are new to any PC page makeup program.

Features

In *PagePerfect* there are 10 different page display modes allowing you to show your work from a 50% reduced size to a 400% enlarged size. The program can display full pages or pairs of pages. You can display any two pages side by side, not just consecutive ones. You can also edit two documents at once, split the screen and open a second document window. This is power which might prove useful to a designer who wants

The program can display full pages, or pairs of pages. You can display any two pages side by side, not just consecutive ones. You can also edit two documents at once, split the screen and open a second document window.

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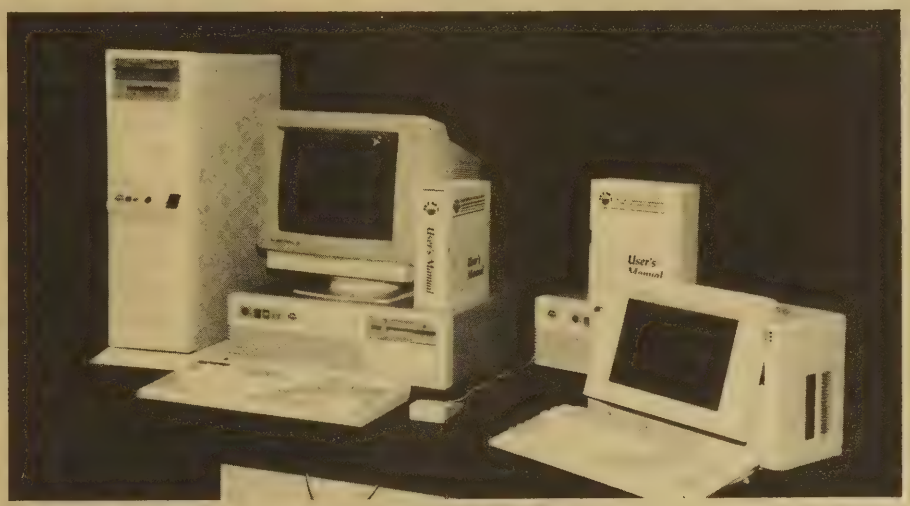

MAXX-386

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The MAXX-286 Plus is 100% IBM-AT compatible with a lot of horse-power under the hood. Its powered by Intels 80286-12 or 80286-16 Harris processor with the implementation of 80 ns fast RAM on board and operates at 0 wait state. An optional 80287 math co-processor for large number crunching enables MAXX-286 Plus to help you complete large jobs quickly.

20 MHz	CPU	Hard Disk Sequential	Hard Disk Random
MAXX-386 Cache Plus	5:20	3:64	3:70
AST-386	4:23	4:50	3:50
AT&T-386	4:16	3:55	3:23
Compaq 386	4:99	1:42	3:67
IBM PS/2	3:89	3:12	3:06
HP-Vectra	4:00	3:08	3:28

Test done by HIMS at their lab and compared with InfoWorld May issue on 386.

Standard Features	MAXX-286 Cache Plus 0 Wait	MAXX-386 0 Wait	MAXX-286 Plus 0 Wait	MAXX-286-16 Plus 0 Wait
Processor	80386-16/8 or 20	80386-16/4.77 or 20	8/12 MHz	8/16 MHz
RAM	1024 K to 8 MB	1024 K to 10 MB	1024 K to 16 MB	1024 K to 16 MB
Cache	64 K	32K (optional)		
Floppy Drive	1.2 MB, 1.44/360 KB (optional)	1.2 MB, 1.44/360 KB (optional)	1.2 MB, 1.44/360 KB (optional)	1.2 MB, 1.44/360 KB (optional)
Hard Disk Drive	44 MB up to 300 MB	44 MB up to 300 MB	44 MB up to 300 MB	44 MB up to 300 MB
Hard Disk Controller	Dual FDD/HDD	Dual FDD/HDD	Dual FDD/HDD	Dual FDD/HDD
Expansion Slots	8	8	8	8
I/O Ports	Serial/Parallel Game Port	Serial/Parallel Game Port	Serial/Parallel Game Port	Serial/Parallel Game Port
Keyboard	101 key	101 key	101 key	101 key
Warranty	One Year	One Year	One Year	One Year
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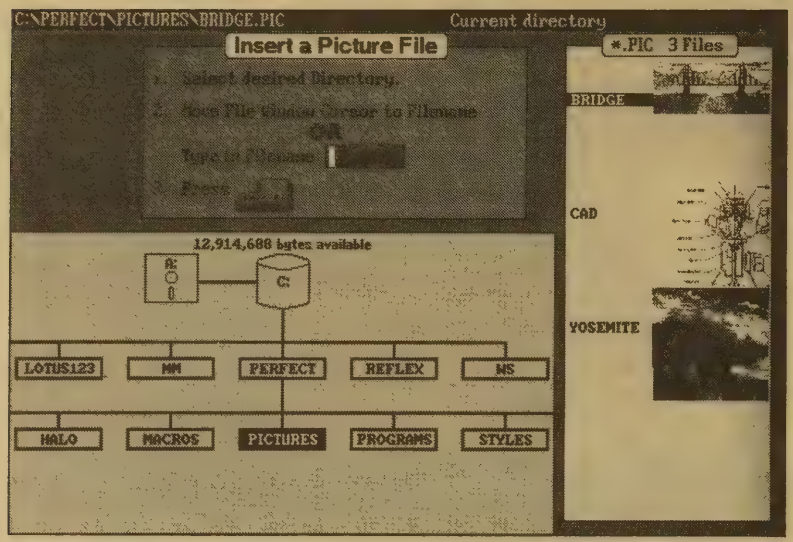

PagePerfect lets you place previously-stored graphics within your document.

to see several alternate page formats simultaneously.

The ability to link and re-link text blocks is another feature which could be very useful to newsletter editors. These blocks (analogous to Ventura's frames) can be numbered and renumbered in any sequence, even after text has been inserted in them. If you've got four different stories on page 1, which continue in four blocks on page 2, you can easily switch the linkages. You can make one story flow through all the blocks on page 1, or link any text blocks on other pages in any sequence. This makes it easy to switch around the layouts for all your stories interchangeably.

In *Ventura* and *PageMaker*, you lay out a page by creating rectangles or frames, then click the text in. *PagePerfect*'s underlying philosophy is that you start with one full-sized text block on each page, then carve it up to your specification by creating vertical and horizontal gutters. Once you divide the page in this manner, each piece becomes a separate block.

Picture blocks are created by tracing a rubber band box over the area you want for a graphic. The text then moves out of the way and flows around. The defaults let you easily align the edges of text and picture blocks semi-automatically.

PagePerfect offers a third kind of block called a liftout. This is basically a portable text block which can be cut and moved around like a picture block.

In a document, you switch back and forth between word processing and layout functions with a toggle key. The mouse will simulate most cursor moves, although the program was designed with the idea that you would do most layout functions with the cursor keys. The mouse support was added principally for the Desktop Publisher's Graphics module.

Another layout aid is offered in the form of recordable key-macros. Thus, if you turn "record" on and create a series of blocks and gutters, you can save the keystrokes and repeat the design in another document.

PagePerfect's graphic tree-display file manager contains a whole DOS shell full of directory functions. When you choose a subdirectory of graphics files to load, each one has a little icon replica of the picture underneath its name. What's called the Picture Librarian is actually the *Dr. Halo* drawing program, configured to pop up at a keystroke.

With features like this you may not notice the absence of some simple things, like pop-up rulers for layout and print-to-disk capability. (Block locations in *PagePerfect* are displayed by an X-Y coordinate header at the top of the page.) IMSI markets a supplementary package called *Reflections* which can capture printer output to a disk file, as well as convert many graphics files to a *Halo*-DPG compatible format.

Hands On

Documentation. *PagePerfect* met with some initial negative response from the computer press because of the numerous revisions to its manual reflecting changes in the interface. These were originally communicated to the user by an errata booklet. Upon installation, you were greeted by a READ.ME file which listed still more changes. IMSI has informed me that the current product being shipped has eliminated the errata list and incorporates a revised manual. The update information has now been integrated into the documentation.

The User Tutorial is a simple one, analogous to the one Digital Research provides for *GEM DeskTop Publisher*. The reference booklet is command oriented; it covers all the options, but not with the detail of *Ventura Publisher*'s documentation. A quick reference card and set of function-key templates is provided for AT and extended keyboards. A separate booklet is included for instruction in use of the DeskTop Publisher's Graphics program. This also contains a simplified tutorial with basic user information. There is little technical information for a sophisticated user who might want to customize or do his own debugging. The DPG program has extremely powerful capabilities which are not illustrated in the tutorial, but which may be familiar to users of previous versions of *Dr. Halo*. *PagePerfect* does have excellent, context sensitive on-line help. If you get lost and forget which function key does what, it's easy to access the information you need. The help system reminds me of *Xywrite*'s hierarchical series of menus. The help covers both selected page processing functions and general information.

Another layout aid is offered in the form of recordable key-macros. Thus, if you turn "record" on and create a series of blocks and gutters, you can save the keystrokes and repeat the design in another document.

Installation: *PagePerfect* creates and accesses several subdirectories. If you already have path information in your Autoexec.bat, it may be necessary for you to either delete your previous path statement or else increase the environment space available to DOS. If you get an "Out of Environment Space" message when you load the program, you can insert a Shell=Command.Com /E: statement in the Config.Sys file or delete extraneous Path statements in the Autoexec bat.

PagePerfect is also finicky about RAM-resident programs. The system I

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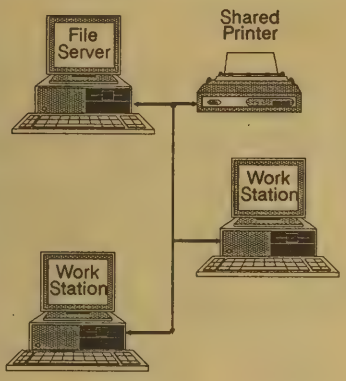

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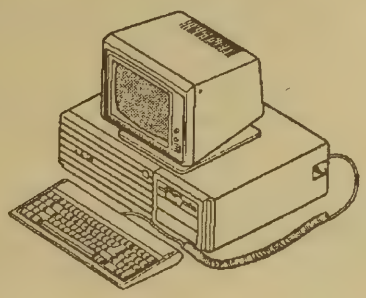

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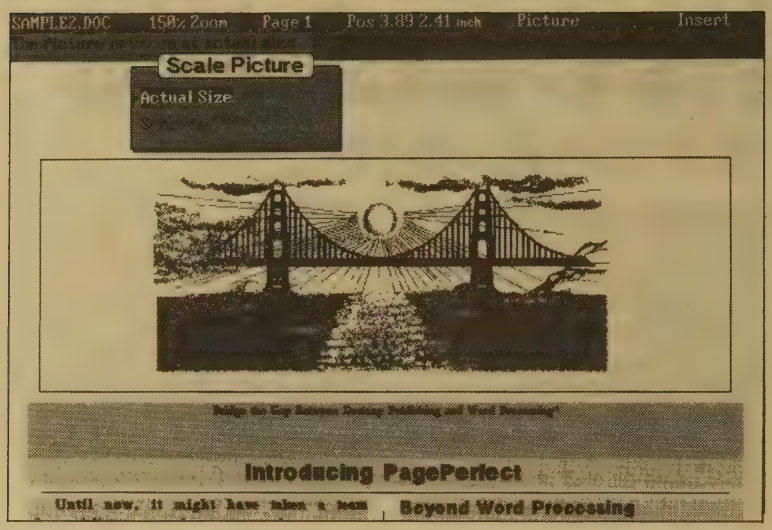
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Introducing PagePerfect
Until now, it might have taken a team
Beyond Word Processing

The program lets you resize the selected graphic to fit the space of the picture block on the page

used for tests originally had a Video 7 screen blanker installed which wouldn't return the screen after it went dark. *PagePerfect*, like *Xywrite*, takes over the keyboard at a low level. If you do not have sufficient memory available, the program may perform most functions but suddenly crash and return you to the DOS prompt. (This happened to me when I tried to open a second document window.) You want to load *Page Perfect* from a vanilla boot with at least 570K of free RAM to avoid this. The program can also be set to use expanded memory.

File Manager: Text and graphics files are accessed from various subdirectories by *PagePerfect*'s file manager. Fortunately, the program looks for files automatically in some default directories. To access other directories, you have to use a combination of shift and cursor keys to travel along the graphic tree diagram to where you want to go. This makes copying or moving files through the shell a little cumbersome. An option to type in path and drive information from the command line or to use the mouse to select directories would really improve efficiency here.

A *PagePerfect* document contains all ASCII and style information in one file, so to transport it by sneaker network to another machine, all you need copy to a floppy is the .DOC file and and any .PIC graphics files which are included. *PagePerfect* can read them on the new machine off the floppy, or they can be copied to the default DOCUMENTS and PICTURES subdirectories on the new hard disk.

Word Processor: *PagePerfect*'s word processor lets you type in and manipulate text blocks with about the speed of Microsoft *Word* v.3 in graphics mode. It allows you to switch editing modes to accept *WordStar* or *MultiMate* command key sequences. Running in graphics mode on top of the entire program, as it does, it's slow enough that I don't think I would use it to do non-DTP-related word processing chores. For inputting a document which you intend to print in *PagePerfect* it should be useful. Certainly it's more comfortable than inputting raw text into *Ventura*. *PagePerfect* imported *WordPerfect* 4.2, *WordStar*, Microsoft *Word* 3.01 and *MultiMate Advantage* files successfully for me, preserving underline, bold and tab stops.

Layout: Paragraph styles can be applied by tagging blocks of text. A collection of styles (stylesheet) cannot be modified from within a document. You must save and exit to the file manager to modify individual styles in a stylesheet. Stylesheets may be swapped from within a document. Picture blocks and gutters can be sized with either the cursor keys or the mouse. Scaling and cropping graphics within the picture blocks was easy and intuitive.

Printing: It took about five minutes to get a printout of one text-only page from an HPLaserJet II at 300 dots per inch. Printing at 150 dpi is considerably faster, and printing of pages with graphics on them a little slower. There is no background printing capability. The sluggish printing speed of the program can be remedied by purchasing and installing a JLASER card from Tall Tree Systems, Inc. The JLASER card takes over printer managing from your computer and will speed output of a single 300 dpi page to less than a minute. Without the JLASER card, print time becomes an important factor in the production of large documents. For photo-ready pages for small newsletters and advertising brochures the printing speed may not be as important.

Scanner: The scan function pops up directly from layout mode. It is easy to use, offers you choice between line-art and photographic scans, and immediately pops the picture into a ready-to-use file, complete with icon. Canon IX-12, JLASER, Ricoh and Microtek 300A scanners are supported. The gray scale options vary with the hardware selected. The *Halo*-DPG module also has a scan function which is not officially documented. The stand alone Desktop Publisher's Graphics supports additional hardware like Princeton and Panasonic scanners. If you have one of these, you might be able to get DPG to do scans with them and then import the files into PagePerfect. (Version 2 will definitely support additional scanning hardware directly from PagePerfect).

***PagePerfect's* function key interface isn't as intuitive as *Ventura's* pull-down menus and toolbox, but once you learn it it may be just as fast. Vector line-art isn't supported, but the scan function lets you import a bitmap at any desired reduction.**

Graphics Editor: DeskTop Publisher's Graphics is essentially *Dr. Halo III* with some additional virtual page display power. (Display of a virtual page allows you to view and edit a picture which is larger than 640 x 350 pixels all on one screen at the same time.) If you're familiar with the *Dr. Halo* series, you know that it is one of the most powerful PC bitmapped graphics packages on the market. The icon selection process is not as intuitive as with *GEM Paint* or *PC Paintbrush*, but you get more than 20 graphic fonts, the ability to rotate text

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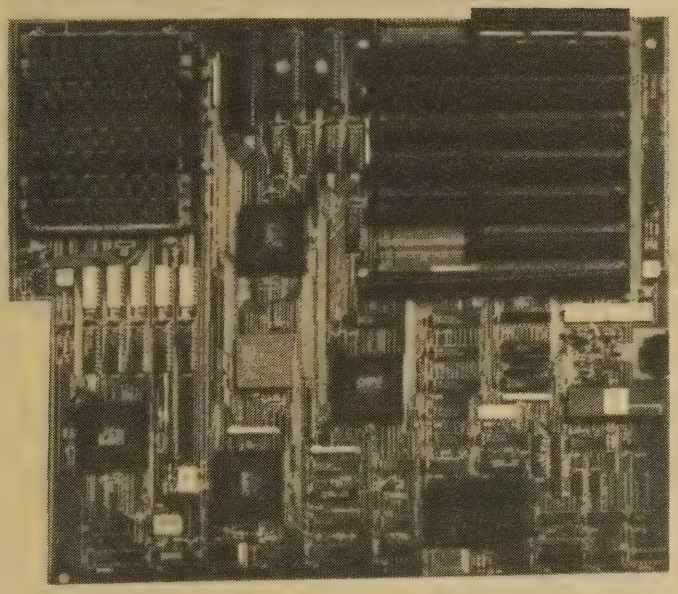

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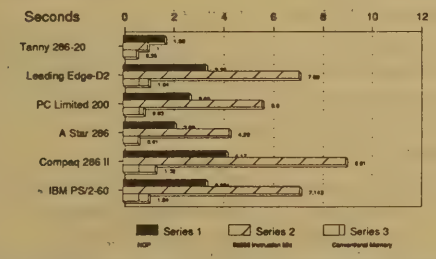

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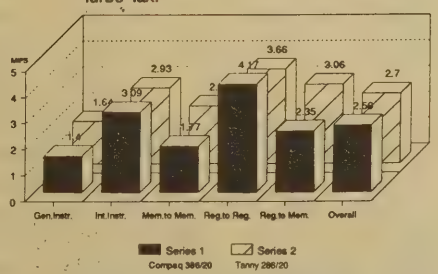

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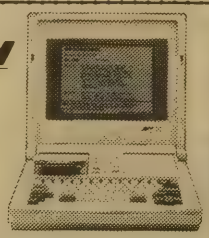

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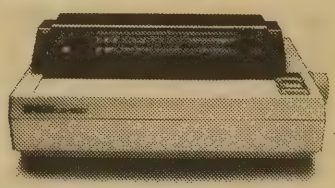

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through any angle, sophisticated pattern editing and symbol creation, 3-D rotation and the ability to view and edit pictures at nine different zoom levels. *PagePerfect* .PIC files can be modified in DPG and *Dr. Halo* .CUT files can be imported and converted to *PagePerfect* format.

Reflection: If you're a Macintosh- or Amiga-using switch-hitter who has followed this far into the labyrinth of PC publishing, you should know about Reflection, a screen grab and file conversion utility distributed by IMSI. *MacPaint*, AMIGA IFF, CompuServe GIF, *HALO*, Inset, *PC Paintbrush*, Aldus TIFF, PostScript Text, HPLJ print files, GEM bit-map, Microsoft *Paint*, Unison *PrintMaster* and *NewsMaster* files can all be interconverted. The engine of Reflection is actually a licensed version of a state-of-the-art file conversion utility called Hijaak, written by Inset Systems, Inc.

In addition to file format conversions, Reflection supplies the print-to-disk capability lacking in *PagePerfect*. Reflection can capture an HPLJ disk file and convert it to any of the other graphic formats. Reflection can grab a text screen, save it as a graphics screen and then convert it back again to ASCII text which can be read by any standard word processor. Reflection can take an ASCII file and convert it to any supported graphic format in one of seven different font styles.

Used in conjunction with Inset Systems' utility, Inset, Reflection can convert black and white images to gray-scales, displayable on the Mac or Amiga, or on the PC in Microsoft *Windows Paint*.

Summary

So is *PagePerfect* for you? *PagePerfect*'s function key interface isn't as intuitive as *Ventura*'s pull-down menus and toolbox, but once you learn it it may be just as fast. Vector line-art isn't supported, but the scan function lets you import a bitmap at any desired reduction.

If you want more fonts, IMSI will send you the Fontware Installation kit for free, and you can purchase the best from Bitstream, but that's the only option.

Twelve stylesheets are included with *PagePerfect*. IMSI publishes a Communication Design Guide booklet with a disk containing 20 additional stylesheets. This is available to any registered *PagePerfect* user for the asking. You can't use a PostScript printer at present, but DPG does support rotation of text in bit-mapped fonts.

If you do have the requisine hardware and would like to bask in the luxury of a truly superior screen display for your work, then you may want to compare *PagePerfect* to the established competition.

Ventura Publisher and *PageMaker* are better known products which draw on publishing metaphors popularized by use on the Macintosh. *PagePerfect*'s approach is a refinement of *Byline*'s hit-the-function-key, change-the-screen system. F8, change document, F9, change style, F10, create new document, etc. The keystrokes are memorized with frequent use of the program, as with other PC-style applications like *WordPerfect*. Mac fans will be reluctant to adapt.

If you do have the requisite hardware and would like to bask in the luxury of a truly superior screen display for your work, then you may want to compare *PagePerfect* (with its built-in wordprocessor, scanner support and extensive graphics editing capability) to the established competition.(*PagePerfect* is available from International Microcomputer Software, Inc. (IMSI), 1299 Fourth Street, San Rafael, CA 94901 Telephone: 415454-7101. Suggested List Price $495. *Desktop Publisher's Graphics*, bundled with *PagePerfect* by IMSI, is also available as a stand alone product. *Reflection* available from IMSI. Suggested List Price $89.)

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Shakespeare brings the Amiga's graphics and color-handling capabilities to desktop publishing.

Shakespeare: Color Desktop Publishing For The Amiga

By Sue Albert

Shakespeare is a full color desktop publishing program for the Amiga that lets you mix elements in any combination on a single page: IFF graphics created in Amiga paint programs, brilliant *Shakespeare* clip art, digitized color video files and multicolored fonts. You can then print them on a wide assortment of color, PostScript or other lasers and dot-matrix printers.

The initial release of *Shakespeare*, version 1.0, had some bugs and printing limitations. In version 1.1, which has been sent free to all *registered* 1.0 purchasers, *Shakespeare's* publisher, Infinity Software, claims to have exterminated the beasties and improved the output and range of printers.

Shakespeare is not intended as a heavyweight contender in the DTP market. Listing at $225, it is a moderately priced Amiga product for producing colorful short documents, rather than a tool for professional typesetting and heavy commercial art studio use. For small business or the home user, it seems the natural companion for the new, relatively inexpensive, ink jet printers such as the Hewlett-Packard PaintJet and the Xerox 4020. Full spectrum flyers, business cards, menus, and invitations are only a start. I can imagine a proliferation of eye-catching report covers, book illustrations, awards, teaching aids, business cards and dance announcements. Digitized portraits could advise the moguls of an actor's talents, or show the world Baby's First Tooth in up to 32 gorgeous colors.

Though *Shakespeare* has a relatively easy learning curve, no desktop publishing program can be grasped in a few sittings. My experience with *GeoPublish* on the Commodore 64 helped me to feel very comfortable with the general operation of the *Shakespeare* toolbox and most screen functions, but entering a world of DPIs, Pica, and multiple screen resolutions can be, and was for me, boggling. For assistance there is the stylish 200-page, spiral-bound *Shakespeare* manual. It is exceptionally well illustrated and logically arranged, and includes a short glossary of basic typographic terms and a fairly comprehensive index. Three tutorials take you from beginning to advanced features, utilizing text and graphics files provided on the included clip art/font disk. Short chapters contain ideas and hints on page layout, design, advice on installing *Shakespeare* on a hard disk and special PostScript instruction. This is the same manual included with the earlier 1.0 version; you are also provided with an *indispensable* 8-page addendum. Therein lay the root of some confusion.

I read the addendum first, but with only vague understanding. As I began the tutorials, "unexplained" events occurred I took in my arrogance to be problems in either the manual or the program. It was only after some crashes, lots of practice, and friendly tech support that I put together the two documents for the big "AHA!" More experienced Amiga users may never have the same problems, but everyone should be prepared to do some serious study on this program.

At $225, Shakespeare is a moderately-priced Amiga product for producing colorful short documents, rather than a tool for professional typesetting and heavy commercial art studio use.

Working with Shakespeare

The screen layout in *Shakespeare* is pretty standard. You have your right mouse button command bar at screen-top with pull-down options, and your small movable toolbox in the right upper corner. Under the command bar and screen-left are improved rulers marked in quarter-inch increments or picas. The cursor arrow in Move and Placement modes now has extending lines that run to the rules for beautifully precise placement and alignment of objects.

With one exception the toolbox is pretty standard. There is a toolbox "disappear" button, toolbox move bar, text and graphic frame creator/eliminator tool, grab/move hand, move-to-back and move-to-front gadgets, the Border tool that can create a hollow or color filled box or line and one gadget that lets you toggle on or off the visibility of the frames. The Place tool which puts text or graphics into already created frames or templates is accessed from a load menu. The very handy Constraining tool, toggled when using the arrow to resize frames, let it move either horizontally, or vertically, in only one precise location.

The most unusual toolbox gadget is a Wedge tool, for placing a frame for text or graphics between two other frames. Its operation is a bit awkward. It is used to create headlines or sidebars from parts of text already in a lower frame, which flow up into the "wedged" frame. This is fine, but there is no way to "break" the link between frames so resizing the "headline" frame can sometimes become freakish.

Shakespeare is not in fact text intensive. This is a rather oxymoronic state for a DTP program. The emphasis is on color graphics and printing, and the more powerful text manipulation features tend to be sacrificed. All text and graphics are created outside of *Shakespeare* with other

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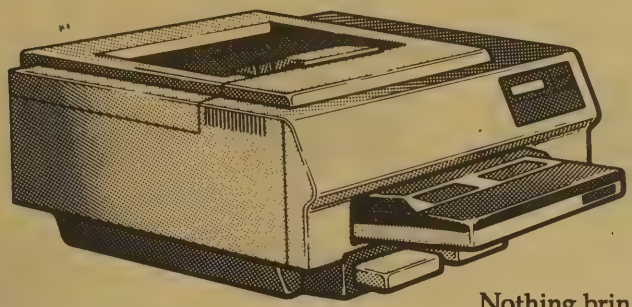

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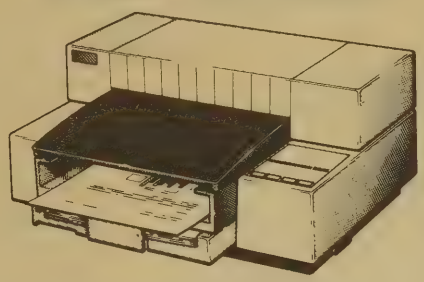

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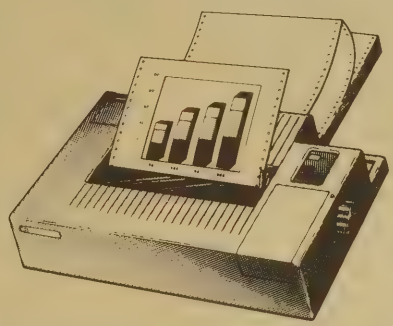

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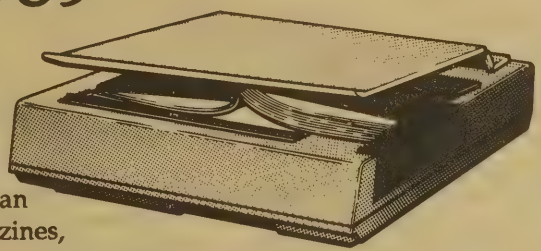

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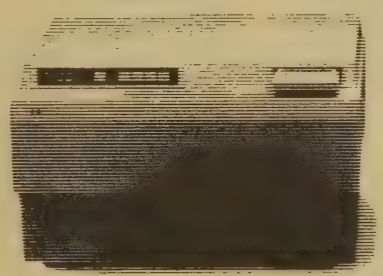

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Amiga word processors or paint programs. Major editing and changes can be clumsy. Text does not automatically "flow" around inserted graphics but must be "diddled" a line at a time or re-framed. There are no drawing features within the program and IFF graphic files must be imported as a brush. Missing and missed are magnifications and an eraser.

Version 1.1 now strips carriage returns on request from imported text files and filters out most non-ASCII commands. In a *Word Perfect* file, I found only a few "leftovers" in an otherwise clean conversion. Text can be created in *Shakespeare*, but this is not recommended for more than short headlines or editing.

A created text is fragile. Unlike file-loaded text it disappears, and for good, if the frame around it is resized too closely. Kerning is not available, but *Shakespeare* does support leading and justification. As with many newer releases for the Amiga, those without memory expansion on 512K machines will be very confined.

I twice experienced a puzzling phenomenon when I gave the final click to print. I got a confused collage of the print requestor screen with a flickering overlay of flashing color. The printouts proceeded correctly but rather slowly, then everything returned to normal. By allowing so many colors and palettes onscreen at one time, *Shakespeare* uses a lot of memory; although I have three megabytes in RAM, it was explained to me that the Amiga itself has some restrictions on the use of "chip memory."

The *Shakespeare* documentation recommends several ways to free up chip RAM to avoid my startling, if harmless, experience. Switching to a lower screen resolution and/or selecting fewer colors while working will help; or, if you're really pressed, the workbench screen can be toggled off from the "Boing" menu. Pulling the work screen down to the bottom during printing will also free up memory and could speed up printing.

New to 1.1 is the option "create columns," where you may invoke any number of columns, set gutters and all margins and automatically add rules between. Taken to the extreme, many narrow columns could quickly be resized, filled with different colors and labeled for instant business charts. Now, in 1.1, you may scroll in any direction on the page by dragging the mouse with the left button depressed. A safety feature has been added to the "new issue" (clear page) command. If you mistakenly hit that command, you may now escape using a cancel button.

Shakespeare comes with several fonts which can be styled in various combinations like Bold/Italic/Underlined, etc. Drop shadows can be created for both fonts and borders easily.

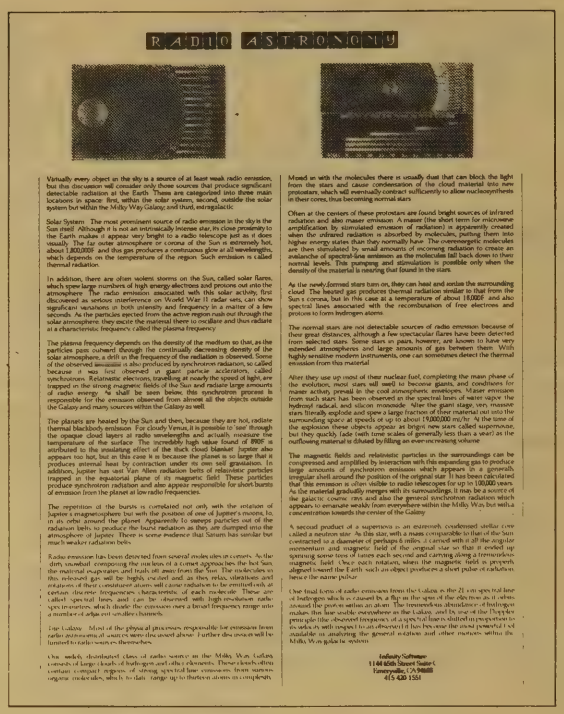
Ornaments other than rules must be created outside the program. *Shakespeare* recognizes the SetMap command, meaning Fonts can be used with international character sets (foreign accent marks and special alphabetic characters). Ditto for the soon-to-be-released five disk font collection which will list for $59.95. *Shakespeare* includes several files of brightly colored clip art and, if I know my Commodore users, we'll soon be drowning in more from the Public Domain.

You may change between low, medium, or high resolution and interlaced modes at will. Graphic brushes maintain their own palettes which are converted when switched between resolutions. A small full color page display in correct proportion is always only a click away. Page changes are reflected while it is onscreen.

Though *Shakespeare* claims to be 100% WYSIWYG, what you see won't always be what you get from the printer unless you toggle all the correct requestors and remember to hit return after entering new settings. DPI settings are critical to getting a printout with the correct spatial aspect. Using a different printer from the one indicated when creating a document may mean changing all settings.

Getting everything clear in the mind is the difficult part, but don't be hard on yourself. Typographers needed years of training to do what we are now attempting ourselves in a few weeks at home. Infinity is planning a future newsletter for registered purchasers with added clarifications and helpful hints.

Shakespeare gives you a variety of ways to compensate for differing ratios in the Page Setup and Print Selection requestors and the 1.3 Workbench Preferences. Depending on your printer, you may be able to resort to tricks like telling the program you are using a smaller page and selecting Print to Fit. Amiga fonts are not figured in typographical point sizes but in pixels, so observing the rulers or checking out the display


RADIO ASTRONOMY

Virtually every object in the sky is a source of at least weak radio emission, but this discussion will consider only those sources that produce significant detectable radiation at the Earth. These are categorized into three main locations in space: first, within the solar system; second, outside the solar system but within the Milky Way Galaxy; and third, extragalactic.

Solar System The most preeminent source of radio emission in the sky is the Sun itself. Although it is not an intrinsically intense star, its close proximity to the Earth makes it appear very bright to a radio telescope just as it does visually. The far outer atmosphere or corona of the Sun is extremely hot, about 1,800,000°F and thus gas produces a continuous glow at all wavelengths, which depends on the temperature of the region. Such emission is called thermal radiation.

In addition, there are often violent storms on the Sun, called solar flares, which spew large numbers of high energy electrons and protons out into the atmosphere. The radio emission associated with this solar activity, first discovered as serious interference on World War II radar sets, can show significant variations in both intensity and frequency in a matter of a few seconds. As the particles ejected from the active region rush out through the solar atmosphere, they excite the material there to oscillate and thus radiate at a characteristic frequency called the plasma frequency.

The plasma frequency depends on the density of the medium so that, as the particles pass outward through the continually decreasing density of the solar atmosphere, a drift in the frequency of the radiation is observed. Some of the observed emission is also produced by synchrotron radiation, so called because it was first observed in giant particle accelerators. Called synchrotron. Relativistic electrons, travelling at nearly the speed of light, are trapped in the strong magnetic fields of the Sun and radiate large amounts of radio energy. As shall be seen below, this synchrotron process is responsible for the emission observed from almost all the objects outside the Galaxy and many sources within the Galaxy as well.

The planets are heated by the Sun and then, because they are not, radiate thermal blackbody emission. For Earth-like Venus, it is possible to see through the opaque cloud layers at radio wavelengths and actually measure the temperature of the surface. The incredibly high value found of 890° is attributed to the insulating effect of the thick cloud blanket. Jupiter also appears too hot, but in this case it is because the planet is so large that it produces internal heat by contraction under its own self gravitation. In addition, Jupiter has vast Van Allen radiation belts of relativistic particles trapped in the equatorial plane of its magnetic field. These particles produce synchrotron radiation and also appear responsible for short bursts of emission from the planet at low radio frequencies.

The repetition of the bursts is correlated not only with the rotation of Jupiter's magnetosphere but with the position of one of Jupiter's moons, Io, in its orbit around the planet. Apparently Io sweeps particles out of the radiation belts to produce the burst radiation as they are dumped into the atmosphere of Jupiter. There is some evidence that Saturn has similar but much weaker radiation belts.

Radio emission has been detected from several molecules in comets. As the dirty snowball composing the nucleus of a comet approaches the hot Sun, the material evaporates and leaks off away from the Sun. The molecules so this released gas will be high, excited and as they relax, vibrations and rotations of their constituent atoms will cause radiation to be emitted only at certain discrete frequencies characteristic of each molecule. These are called spectral lines and can be observed with high resolution radio spectrometers, which divide the emission over a broad frequency range into a number of bins or radio channels.

The Galaxy Most of the physical processes responsible for emission from radio astronomical sources were discussed above. Further discussion will be limited to radio sources themselves.

One widely distributed class of radio source in the Milky Way Galaxy consists of large clouds of hydrogen and other elements. These clouds often contain a number of strong spectral line emitters. Some are simple organic molecules, which include large up to thirteen atoms in complexity.

Mixed in with the molecules there is usually dust that can block the light from the stars and cause condensation of the cloud material into new protostars, which will eventually contract sufficiently to allow nucleosynthesis in their cores, thus becoming normal stars.

Often at the centers of these protostars are found bright sources of infrared radiation and also maser emission. A maser (the short term for microwave amplification by stimulated emission of radiation) is apparently created when the infrared radiation is absorbed by molecules, putting them into higher energy states than they normally have. The overenergetic molecules are then stimulated by small amounts of incoming radiation to create an avalanche of spectral-line emission as the molecules fall back down to their normal levels. This pumping and stimulation is possible only when the density of the material is nearing that found in the stars.

As the newly-formed stars turn on, they can heat and ionize the surrounding cloud. The heated gas produces thermal radiation similar to that from the Sun's corona, but in this case at a temperature of about 18,000° and also spectral lines associated with the recombination of free electrons and protons to form hydrogen atoms.

The normal stars are not detectable sources of radio emission because of their great distances, although a few spectacular flares have been detected from selected stars. Some stars in pairs, however, are known to have very extended atmospheres and large amounts of gas between them. With highly sensitive modern instruments, one can sometimes detect the thermal emission from this material.

After they use up most of their nuclear fuel, completing the main phase of the evolution, most stars will swell to become giants, and conditions for many actively persist in the cool atmospheric envelopes. Maser emission from such stars has been observed in the spectral lines of water vapor the hydroxyl radical and silicon monoxide. After the giant stage, very massive stars literally explode and spew a large fraction of their material out into the surrounding space at speeds of up to about 19,000,000 mi/hr. At the time of the explosion these objects appear as bright new stars called supernovae, but they quickly fade (with time scales of generally less than a year) as the outflowing material is diluted by filling an ever-increasing volume.

The magnetic fields and relativistic particles in the surroundings can be compressed and amplified by interaction with this expanding gas to produce large amounts of synchrotron emission which appears in a shell-like or irregular shell around the position of the original star. It has been calculated that this emission is often visible to radio telescopes for up to 100,000 years. As the material gradually merges with its surroundings, it may be a source of the galactic cosmic rays and also the general synchrotron radiation which appears to emanate weakly from everywhere within the Milky Way, but with a concentration towards the center of the Galaxy.

A second product of a supernova is an extremely condensed stellar core called a neutron star. As the star, with a mass comparable to that of the Sun contracted to a diameter of perhaps 6 miles, it carried with it all the angular momentum and magnetic field of the original star so that it ended up spinning some tens of times each second and carrying along a tremendous magnetic field. Once each rotation, when the magnetic field is properly aligned toward the Earth such an object produces a short pulse of radiation hence the name pulsar.

One final form of radio emission from the Galaxy is the 21 cm spectral line of hydrogen which is caused by a flip in the spin of the electron as it orbits around the proton within an atom. The tremendous abundance of hydrogen makes this line visible everywhere in the Galaxy, and by use of the Doppler principle the observed frequency of a spectral line is shifted in proportion to its velocity with respect to an observer. It has become the most powerful tool available in analyzing the general motions and other matters within the Milky Way galactic system.

Infinity Software
1144 65th Street Suite C
Emeryville, CA 94608
415-420-1551

Text and graphics can be combined in a variety of ways on a single page, and a variety of output devices is supported.

screen will give a truer approximation of the finished page. With PostScript selected, you may either print directly to a PostScript printer or output to a disk file for transport or uploading to a printing service.

Included on 1.1 is the pre-release of the Workbench 1.3, with new printer drivers and output selections like B&W or greyscale in Preferences. I blundered in placing two IBM Proprinter drivers downloaded from CompuServe into Preferences, trying to get better results from my Star NX-1000. One driver immediately crashed the program. This is *not* recommended Commodore practice, but lo and behold the other driver is giving me quality output, as long as I don't save it in Preferences, but just choose to "use" it each session. Go figure!

Printing Services

If you don't have a laser or color printer, how can you use *Shakespeare*? If you live in the Bay Area you are fortunate. There are two local desktop publishing services that support the Amiga. Giraffe-X in San Francisco has a wide range of services including Digi-View color image scanning, Amiga Live! video digitizing, color printing with the Hewlett-Packard Paint-Jet, an Apple LaserWriter and a Linotronic. There is a Giraffe-X BBS for file transfers and informational exchanges about Amiga graphics and DTP. Your Type Too in Oakland is a smaller operation offering laser printing with lots of knowledgeable personal support and online service.

Conclusions

There are exciting improvements coming for the Amiga, with a new chip set making possible better screen resolution and multiscan monitors. A Workbench 1.4 is in the offing. We can hope that *Shakespeare* will grow right along with the machine. I'd like to see more escapes, trouble alerts, and a periodic autosave. Some tightening of the bolts and a greater emphasis on ease and flexibility in text manipulation would be desirable. Users are *insatiable*, and Infinity is keeping tabs on all suggestions for future updates. In the meantime there is technical support 9 to 5, five days a week, by phone . . . your dime. □

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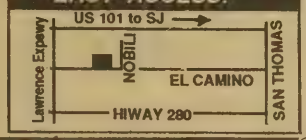

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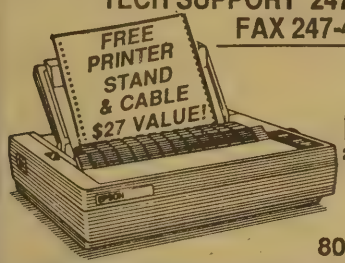

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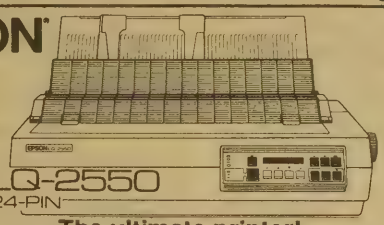

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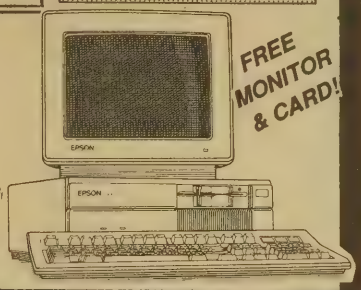

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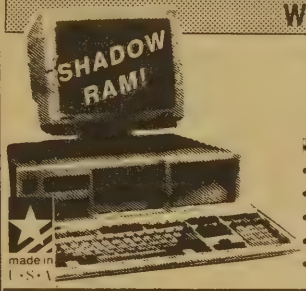

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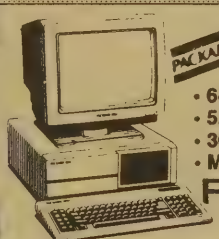

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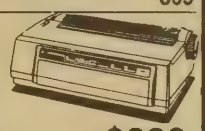

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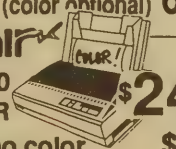

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The SABA Page Reader:

Getting Paper Files Into Your PC

By Robert D. Athey Jr.

In the past year, about a half dozen optical character readers (OCRs) have come out at less than $2000. The SABA Page Reader is priced at $1399, including software and documentation.

As a small business person and a holder of twelve filing cabinets' worth of experience, I have a real problem in accessing the data or reports of the past, since I have to remember what is there and where it is. As soon as optical OCRs appeared on the scene, I saw an opportunity to get rid of filing cabinets and condense all that paper to a well-indexed system of disk accessible files. However, since the first document readers were expensive—$10,000 or more a pop—I couldn't justify the cost.

However, thanks to its functionality and low cost, I like the Page Reader well enough to have purchased it outright after using it for a month.

The SABA Page Reader OCR recognizes 84 NLQ print faces and 16 dot matrix print faces. Table I shows the character systems currently recognized by the device, and more are coming with regular software upgrades.

Installation

The package from SABA comes with a board to be installed in an open slot of your computer, a cable to connect the CPU to the reader, the software program disk, six font disks, the reader and the manual. I called a technician friend to come install the board, being a bit wary, but it turned out to be simple enough for me to have done anyway. The hardest part of the installation on my Z-159 was putting the cover back on, because it's a close fit. There are several slots open for insertion of the board, and a simple bolt ties it to the back wall of the CPU. You close up and put the cable connection onto the CPU and the reader and plug in the separate power cord for the reader.

The next part of the installation is reading in the disks according to the directions of the manual. You don't have to install all the font recognition disks if you know what you want to read into your computer. Since my files cover so many years, and I don't know one font from another, I installed them all. The initiation program on the first disk is called simply INSTALL.EXE (no surprise there), and it modifies the autoexec.bat to include the necessary commands it needs. It also sets up a subdirectory called "\SABA" to contain the page reader software.

You'll need lots of hard disk space for storing the fonts (70K per font), but a large RAMdisk would do it, too. The program itself only takes 270K of user memory, so using it with only one known font could be done off a floppy, though a RAMdisk (e.g. from the public domain program MBRAIN12) would go faster.

We found the documentation provided with the unit to be clearly written and pleasantly presented. Included in the manual are two sample pages that you can tear out and practice scanning. Aside from hardware and software installation/configuration information, the manual also provides "Productivity Suggestions" (they are quite good) and a troubleshooting section. The index, however, could use a bit of fine tuning.

The Moment Of Truth

With all the installation done, we were ready to try it. I had several documents all ready.

We first read in a report I'd recently written for a client on my C. Itoh Prowriter, and the software recognized only about 10% of the characters. Going through to correct it would have been more tedious than simply rewriting the beast.

The next document chosen was a speech a friend of mine gave. The character recognition was at least 99%. The need to go through and correct was minor.

I've since used the scanner in my business to read in an excerpt of a report from CALTRANS on traffic paints for a client, among other things. It would be ideal for lawyers to read in their opponents' depositions and interrogatories for indexing to specific keywords that would highlight damaging admissions. I could have used it last year in a trade secret theft case where 20,000 pages needed screening. *continued on page 140*

As soon as optical OCRs appeared on the scene, I saw an opportunity to get rid of filing cabinets and condense all that paper to a well-indexed system of disk accessible files.

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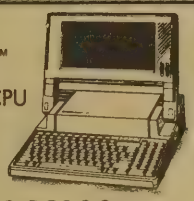

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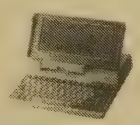

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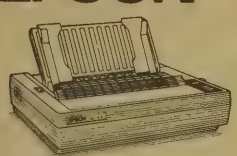

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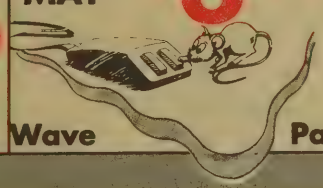

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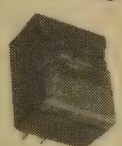

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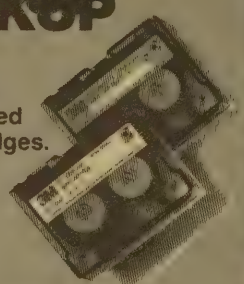

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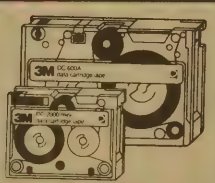

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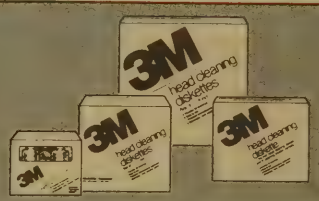

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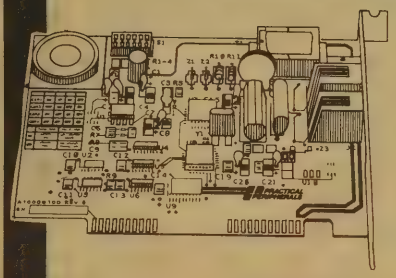

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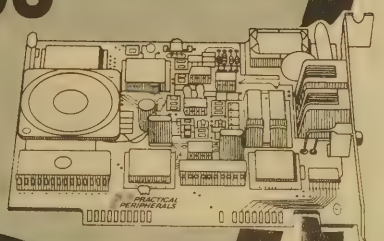

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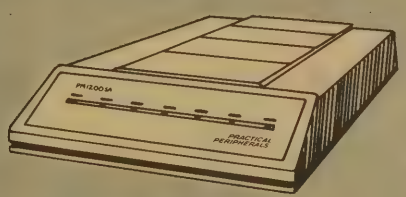

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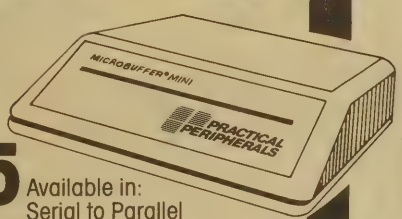

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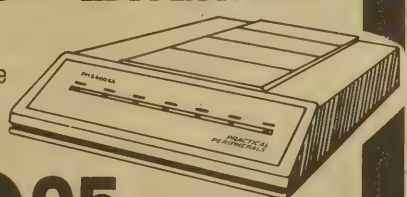

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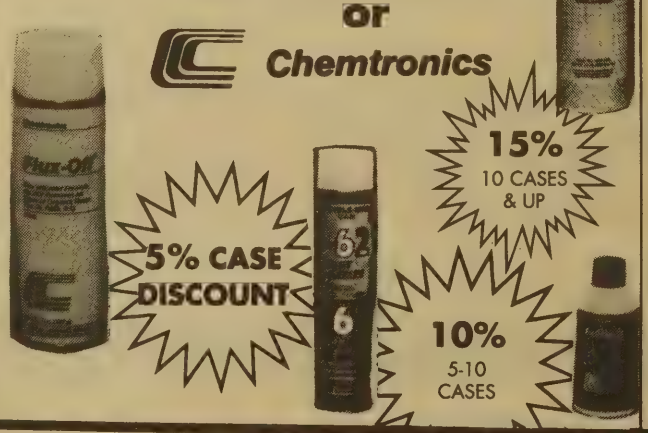

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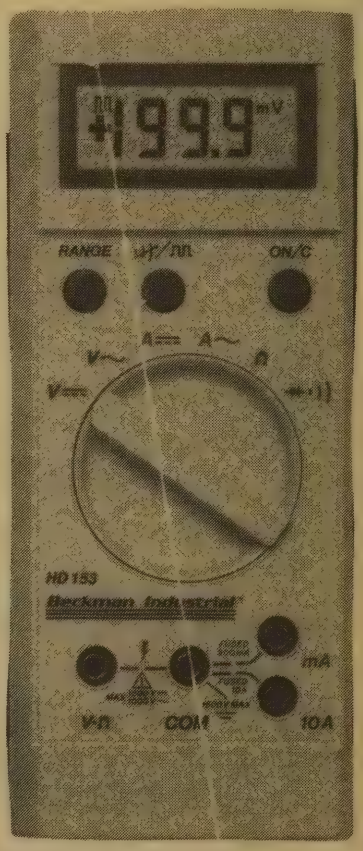

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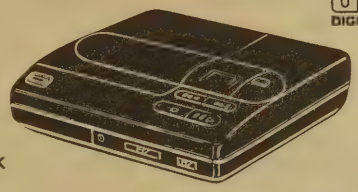

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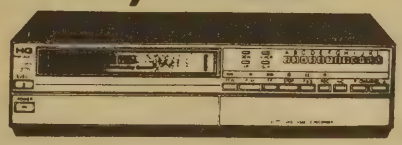

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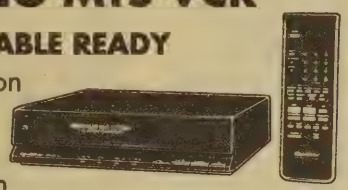

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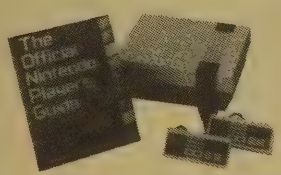

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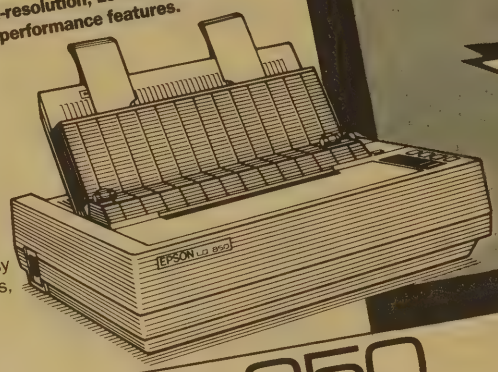

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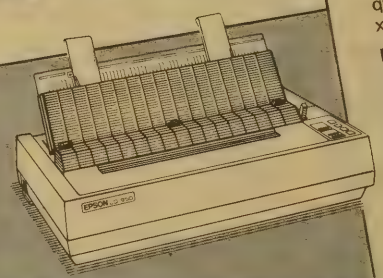

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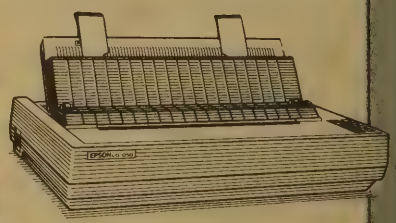

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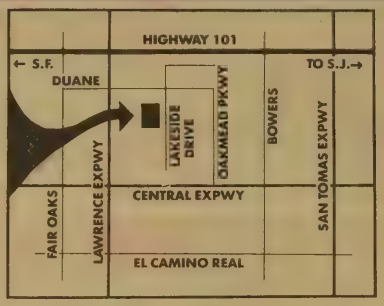

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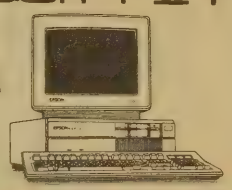

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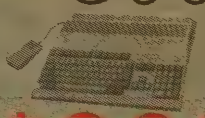

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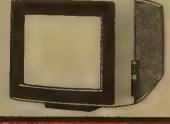

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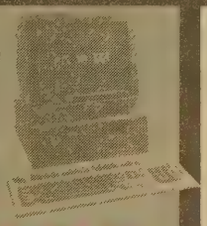

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MAC @ WORK

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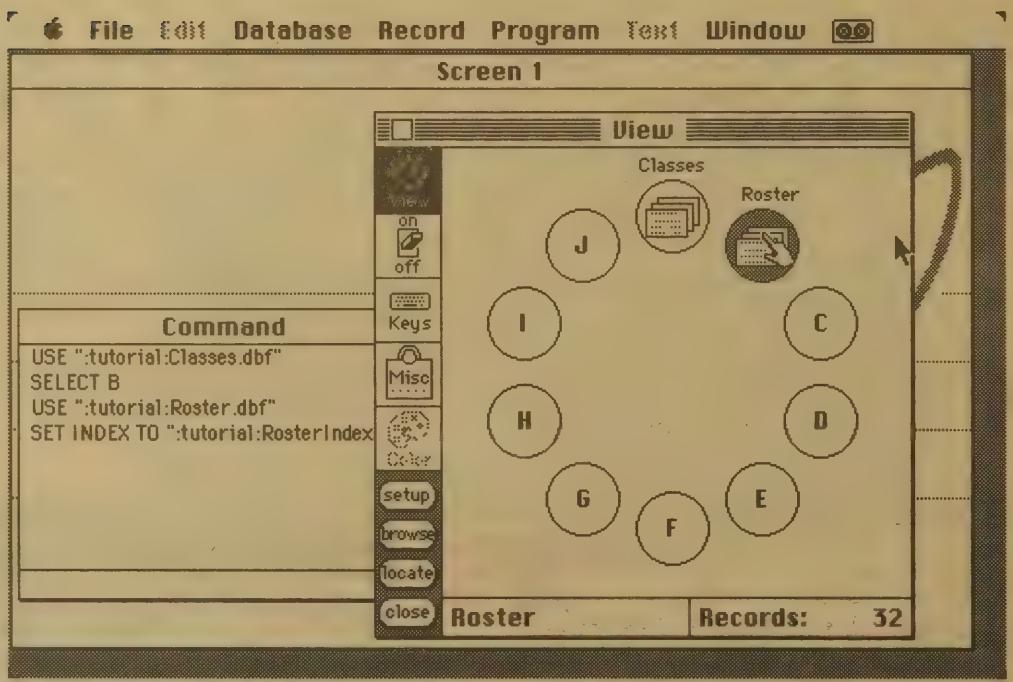
dBASE Compatibility With Mac Accessibility

Foxbase+/Mac

By Steve Guttman

The great software migration continues. DOS applications are finding new homes on the Mac, and hot Macintosh software is surfacing on big blue boxes. We've seen *PageMaker*, *Omnis* and Microsoft *Excel* running on Intel chips. *dBASE* and *WordPerfect* have finally learned about icons. And the latest defector is *Foxbase+/Mac* from Fox Software.

Foxbase first surfaced several years ago as a *dBASE III* clone that outgunned the original. Foxbase's speed, language implementation and thoughtful *dBASE* extensions were persuasive enough to earn it *PC Magazine's* Editor's Choice accolades in their May database shootout (honors it shared with *Paradox* and *R:BASE*). And along with Nantucket Corp's *Clipper*, Foxbase has been widely accepted in the PC world as one of the few top quality *dBASE* substitutes.



The Foxbase View window contains ten circles representing ten dBASE work areas and provides status information on them.

Foxbase+/Mac is Fox Software's first entry in the Macintosh database wars. Although relatively venerable programs like *4th Dimension*, *FileMaker*, and *Omnis* have carved out their own niches in the Mac market, *Foxbase+/Mac* brings a new and very powerful capability to the Macintosh: complete *dBASE III+* compatibility.

Now, *dBASE* compatibility may not be the most exciting thing in the world to you; it certainly isn't why you bought your Macintosh. But 60% of the PC world speaks *dBASE*. Millions of lines of *dBASE* code have been written, and enormous *dBASE* databases have been created. *Foxbase+/Mac* lets users take these programs and databases and run them, without modification, on

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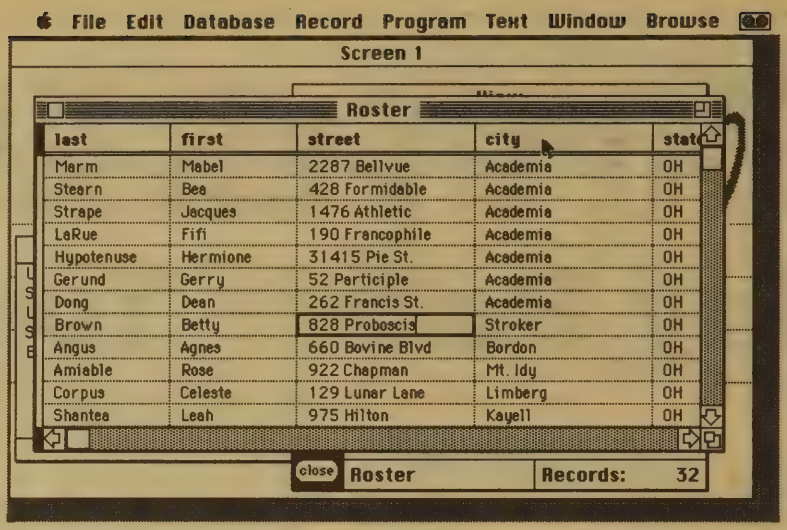
Mac Pluses, SEs and IIs. Not even *dBASE Mac* (which can read PC *dBASE* databases, but not programs) can boast as much.

But the beautiful thing about *Foxbase+/Mac* is that Fox Software has taken a program with a standard, but rather bland, PC interface and turned it into a real Mac application. They haven't thrown away the concepts behind DOS *dBASE /Foxbase*. Instead they've preserved the definitions and relationships between all the different database elements. But they've come up with visual paradigms to express these ideas. *Foxbase+/Mac* lets you see what you're doing.

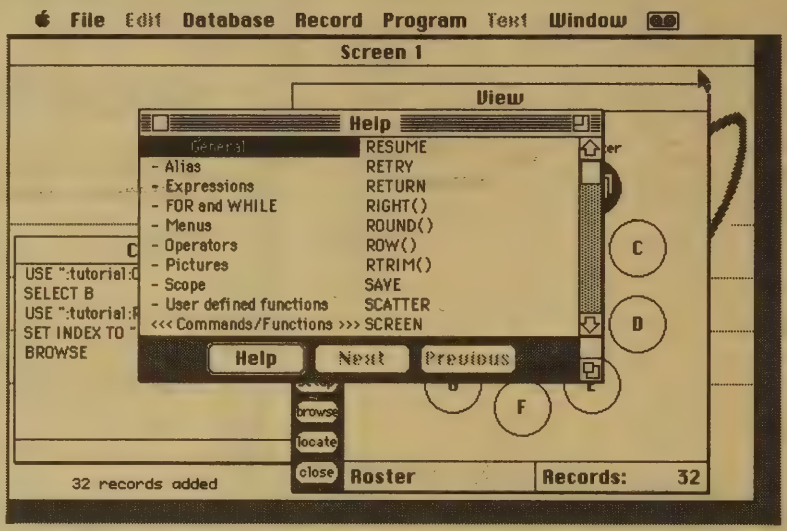
For example, in standard *dBASE* you can open up to 10 separate work areas. These work areas have pointers to open database files and their associated index files. If you've forgotten which database files are open, you issue the Display Status command which returns statistics on the open work areas. In *Foxbase/Mac* you simply look at the View Window. This window contains ten circles representing the ten *dBASE* work areas. When linked to a database, a work area is filled with a book symbol that displays the name of the database. If index files are also opened, a hand with extended index finger crosses the book.

Now, DOS *dBASE* is both an interpretive and a programming environment. The interpreter features a simple command line on which *dBASE* directives can be typed and executed. It's a no-frills interface, but one that's fast and easy to use. A *dBASE* program is simply a collection of *dBASE* commands contained in a file or set of files. To execute a program, you simply type "DO Program" within the interpreter or "d*BASE* Program," at the DOS command line. While the language primarily deals with the manipulation of database elements like fields and memory variables, it does contain some basic screen formatting commands like the ability to draw boxes, change screen colors and output text at a specified screen position.

Despite the vanilla flavor of the interface and language, it does have certain advantages. For those on familiar terms with *dBASE*, it's fast and flexible. For those aficionados of the DOS-style interface, *Foxbase+/Mac* has a facility called the Command window in which *dBASE* commands can be entered and executed in the same style as the PC version.



Foxbase's Browse window lets you interactively scan and modify an open database by opening a scrollable window showing its fields and records.



Foxbase's Help facility comprises a database which can itself be customized and incorporated within your own programs.

Beyond dBASE Compatibility

But those who only stick with the Command window won't be testing the real power and Mac-like qualities of the program. *Foxbase+/Mac* has five additional built-in windows which give the program great versatility. The Browse window lets you interactively scan and modify an open database by opening a scrollable window showing its fields and records. You can rearrange the order of fields using a "grabber" hand or, split the window so that you display the fields you are interested in.

The expression builder is a mouse driven way of constructing any kind of conditional clause, to locate database records fulfilling certain criteria., for example. You could conduct this kind of search by typing "locate for year > 1984" in the Command window (where year is a database field name). Alternatively, you could pull down the Record menu, choose the Locate command, and then select the "for" option from the dialog box. The expression builder (see figure) pops up allowing you to choose the field name year from a scroll box and the logical expression > from the "logical" pop-up list. While those familiar with *dBASE* will find this a cumbersome process compared to using the Command Window, it's an effective learning tool for novices.

The Trace and Debug windows are incredible time-savers for programmers. In trace mode, you step through a program a statement at a time. As it's executed, each line is displayed in the Trace window. You can configure *Foxbase+/Mac* so that both the program output and the Trace window are visible at the same time. Thus, you can easily discover and remedy problems in your program. The Debug window lets you monitor the value of variables and expressions. In addition you can set breakpoints which suspend program execution when a logical condition becomes true or the value of a variable changes. These features make *Foxbase+/Mac* a complete programming and debugging environment, unlike DOS *dBASE*, *Foxbase* which has limited debugging capabilities.

I converted two medium sized (about 2000 lines each) *dBASE* programs to *Foxbase+/Mac*, and both ran without problems. Note that none of the Mac system fonts includes the IBM extended (i.e. line drawing) characters, so that you may have to make some adjustments to your code (or use a different font) if you like to draw anything more sophisticated than boxes. Also, the IBM screen typically displays a white pixel on a black background, while

In addition to including the rudimentary screen control commands that insure compatibility with the DOS version, Foxbase+/Mac has a wealth of Mac-specific features which can make your programs truly look and feel like Macintosh applications.

continued on page 176

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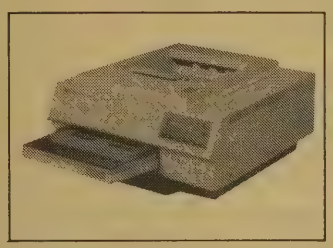

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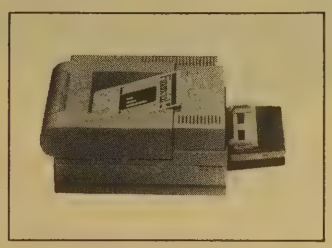

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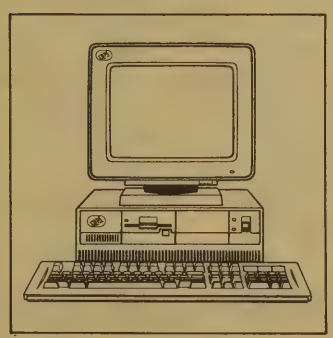

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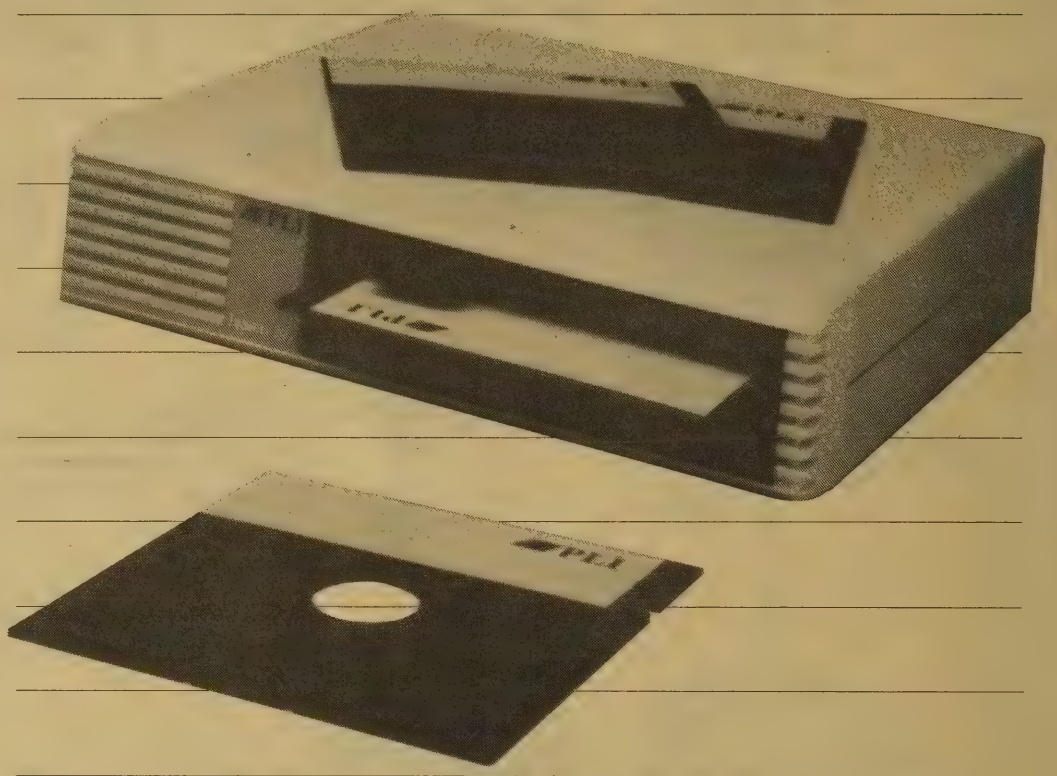
PLI's Infinity 10 SV

By Tony Rocco

Hard drives are hard drives are hard drives...

Unless they can read files from another machine. If you're a Mac user, that other machine is most likely to be running MS-DOS. One such hard drive from Peripheral Land, the Infinity 10SV, does an admirable job of taking files stored to a 360Kb or 1.2Mb floppy and reading them to a Macintosh disk where they become fodder for a suitable Macintosh application.

In your basic Macintosh mode, the Infinity 10SV uses special 10Mb floppies that retail for $25. They insert and lock in just like any 5.25" floppy disk. I encountered an occasional tendency for the Mac not to boot off the hard drive or, when booted from a floppy, not to recognize the presence of a disk in the Infinity. The solution was to simply remove the 10Mb disk and start again. After one or two tries, things would start rolling.



The PLI Infinity 10 converts DOS files to Mac-readable format and offers economical removable-mediastorage.

Setup

Setting up the Infinity is pretty much a vanilla operation. If your system is configured with more than one SCSI device, you may want to change the setting on another device before changing the Infinity's, since the procedure with the Infinity is not as easy as I would like. Rather than have a little clicker or something to easily change the ID, the Infinity requires that you use a small jeweller's screwdriver to turn a dial. (One thing to remember when setting up the Infinity with more than one other SCSI device: because the Infinity has internal SCSI terminators, it must be the first or last device in a daisy chain. It can not be set up between two other devices.)

The next step is to load one of the fully formatted 10Mb floppies that come with the Infinity. For those with a PC background, this task will no doubt come quite naturally. Even if you are PC-ignorant, it will be easy. First, flip the lever on the front of the drive to the horizontal position. Then take the black disk (which is going to feel pretty flimsy to those of us accustomed to the Mac's 3 1/2" disks) out of its paper sleeve and stick it in the drive with the exposed media in first and the label up. Gently push it all the way in until it clicks into place, then press the lever into its vertical position so that it secures the disk in the drive. Turn on the power, turn on the Mac and boot up. If this procedure doesn't bring the desired results, flip the lever up, pull out the floppy and start again.

A cautionary note here: before *removing* a floppy from the hard drive (once it has booted up), you *must* remove the Infinity icon from the desktop by selecting it and dragging it to the trash. Failure to do so will result in damage to the directory of a subsequent disk placed in the drive. If you eject a diskette from the Mac's internal drive without dragging it to the trash or hitting Command-E or Shift/Command-1, the same thing would happen. This is hard to do in a Mac drive without sticking a thick paper clip into the little hole by the drive. Unfortunately, it is very easy to do with the Infinity 10SV.

Once you get the Infinity icon on the screen, everything proceeds normally. The 10SV isn't particularly noisy, but it isn't the most quiet drive I've ever heard. It makes a steady whir when the disk is being accessed, but the sound in no way renders the drive tiring to use. A read/write light also tells you things are happening.

The manual states that the average access time of the drive is 75 milliseconds. That means if speed is a top consideration for you in purchasing a hard drive, you will be disappointed in the 10SV. While it's a marked improvement over any floppy drive, it is slower than hard drives with non-removeable media. My 40Mb Jasmine Direct Drive is noticeably faster on a Plus than is the Infinity.

If you need a hard drive with the ability to read IBM files and make efficient backups, and speed is not a major requirement, this machine may be just what you've been looking for.

Transferring DOS Files

The chief usefulness of the Infinity is two-fold: first, you can use the Infinity to back up a hard drive (or diskettes) onto removeable media that hold the equivalent of twelve and a half double sided disk-

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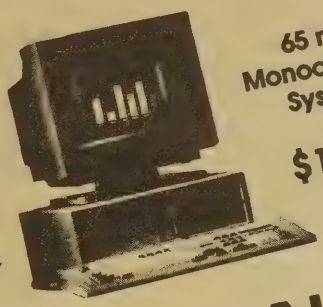

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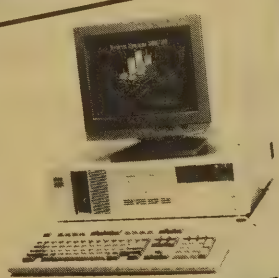

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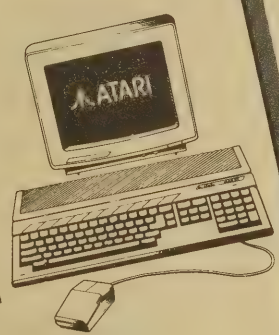

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ettes. Secondly, you can transfer files from 360Kb XT and 1.2Mb AT floppies to the Mac. Doing the latter involves a simple utility included with the Infinity called *MSD, MAC.*

Using the utility means booting from a floppy with the utility on it. (Obviously, with the Infinity being used to read an IBM floppy, you can't run *MSD , MAC* from it.) My first attempt at using the utility failed. Several text-only files were transferred incompletely, cut off neatly at about 500 or so characters. A call to Peripheral Land's tech support department yielded perplexity and confusion all around. A promise was made to return my call after conferring with other technical personnel. While waiting for the call, I then transferred the *MSD, MAC* utility from the master disk (which I shouldn't have been using in the first place) to another diskette and rebooted. Voila, it worked perfectly. No tech support necessary.

Using the IBM transfer utility is simple. After placing the IBM disk into the Infinity, you launch the utility as quickly as possible. If you wait more than five or six seconds, a dialog box pops up telling you that you have not inserted a Macintosh disk. If this should occur, clicking the Eject button solves the problem (without actually ejecting the floppy). Once you've launched *MSD, MAC,* you get a scrollbox which displays all the files and sub-directories on the IBM floppy. Double clicking on one of the files or clicking on the Copy button starts the transfer process. Another scrollbox comes up allowing you to select a destination disk and folder in which to place the erstwhile IBM file. The final step is to click Yes or No in a dialog box asking you whether the file you are transferring is a text file. When the conversion is finished, you either select another IBM file to transfer, or click the Quit button and open up your new file with the appropriate software.

Using the IBM transfer utility is simple. After placing the IBM disk into the Infinity, you launch the utility as quickly as possible .. . Once you've launched MSD, MAC, you get a scrollbox which displays all the files and sub-directories on the IBM floppy. Double clicking on one of the files or clicking on the Copy button starts the transfer process.

The Infinity 10SV comes with two other utilities, one to copy files and one to format the 5.25" floppies. While both of them seemed to work just fine, there are a couple things I did not like about the *FastCopy* utility. First, it does not allow you to select more than one file for backup without selecting all the files in a volume. Secondly, the utility violates the sacred Standard Macintosh Interface by not blackening the file names in the scrollbox when the entire volume is selected. Instead, the files appear to be entirely unselected. Not only is this confusing - I didn't realize the files were actually selected and therefore assumed a bug in the program - it does not accord with the standard for every other scrollbox I've seen in a Macintosh application. In Macintosh land, consistency is the byword, and *FastCopy* violates the consistency of the Macintosh interface.

The Infinity 10SV does what it was meant to do very well. If you need a hard drive with the ability to read IBM files and make efficient backups, and speed is not a major requirement, this machine may be just what you've been looking for. ($1295. Infinity 10SV, Peripheral Land, Inc., 47800 Westinghouse Drive, Fremont, CA 94538. 415/657-2211.)

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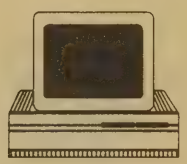

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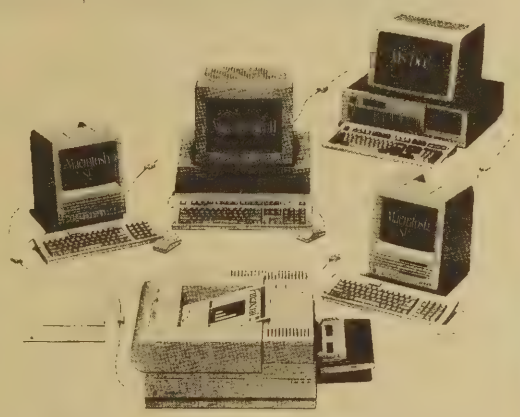

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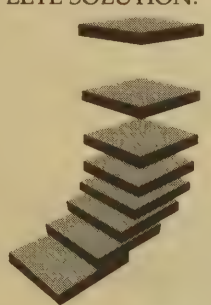

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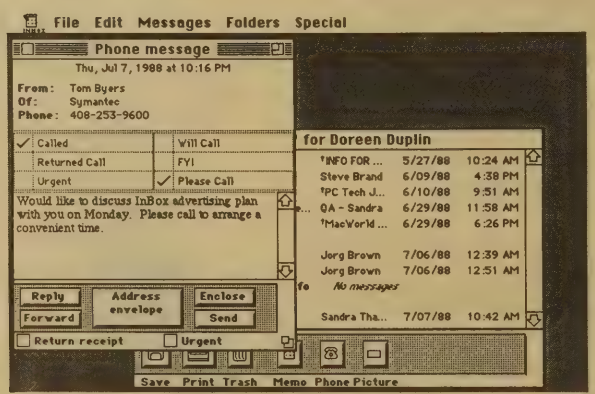
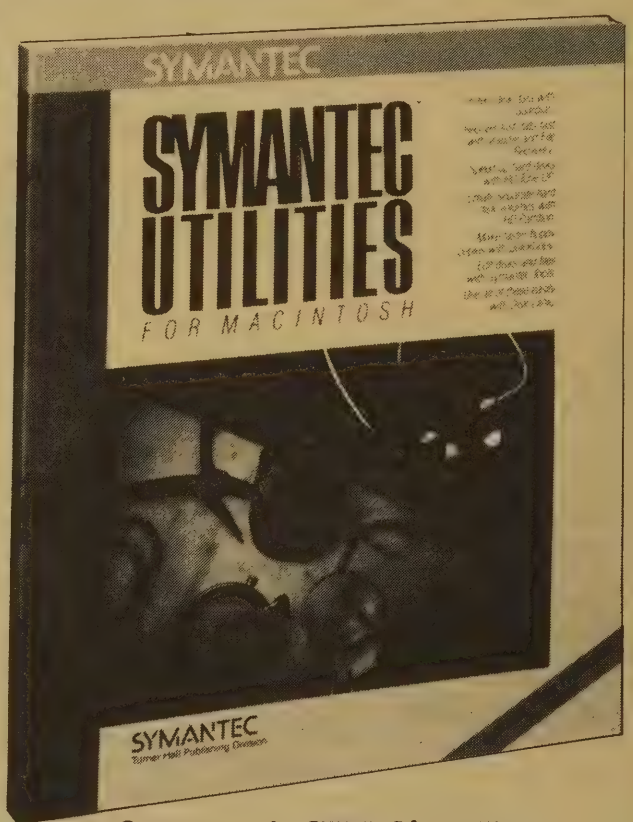
New Quark Xpress 2.0 Includes User Defined Enhancements

The new release from Quark, *QuarkXpress* 2.0, is an upgrade that contains enhancements suggested by users in the publishing industry. Those improvements include the addition of style sheets, faster printing speeds, the ability to export files in multiple file formats and precise on-screen shading. The style sheets feature records character attributes, paragraph format and tab stops, thus making it quick and easy to make formatting changes to large blocks of text. *QuarkXpress* users can also apply custom colors to text and graphics in one percent increments using three models: CMYK, HSB and RGB. PANTONE colors can also be selected then broken down to their CMYK equivalents when process separations are made. ($795.) Quark, Inc., 300 South Jackson, Suite 100, Denver, CO 80209. (303) 934-2211.

Award-Winning InBox Email Application Receives Upgrade

InBox, Symantec's award-winning electronic mail and file transfer software for the Mac and PC, will soon be released in version 3.0. The application runs on Macintosh file servers such as TOPS and Appleshare as well as its own mail server. New features include filing messages by user-defined topics and categories, personal reminders, graphic files and support for multiple personal address books. New editing features support full-size memos with font style and size selection options. *InBox* will be available in the fourth quarter of 1988. Final pricing and upgrade policies have not been decided upon. Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014. (408) 253-9600.





Symantec's SUM Gives User Friendly Interface To MacZap

SUM from Symantec is a rerelease of Micro Analysts' *MacZap* utility program with a totally new interface that makes it easier to use. Anyone intimidated by the complexity of *MacZap* will find the Symantec version more user friendly. *SUM* protects against disk crashes, mistakenly deleted files and initializing a disk by mistake. It can defragmentize a hard disk, create partitions, duplicate floppies quickly and make changes to the information in a file on disk or to the information about the disk itself. *SUM* supports HFS and works with any Mac from a 512Ke up. The program requires System 4.0 and Finder 5.3 or later. ($99.95.) Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014. (408) 253-9600.

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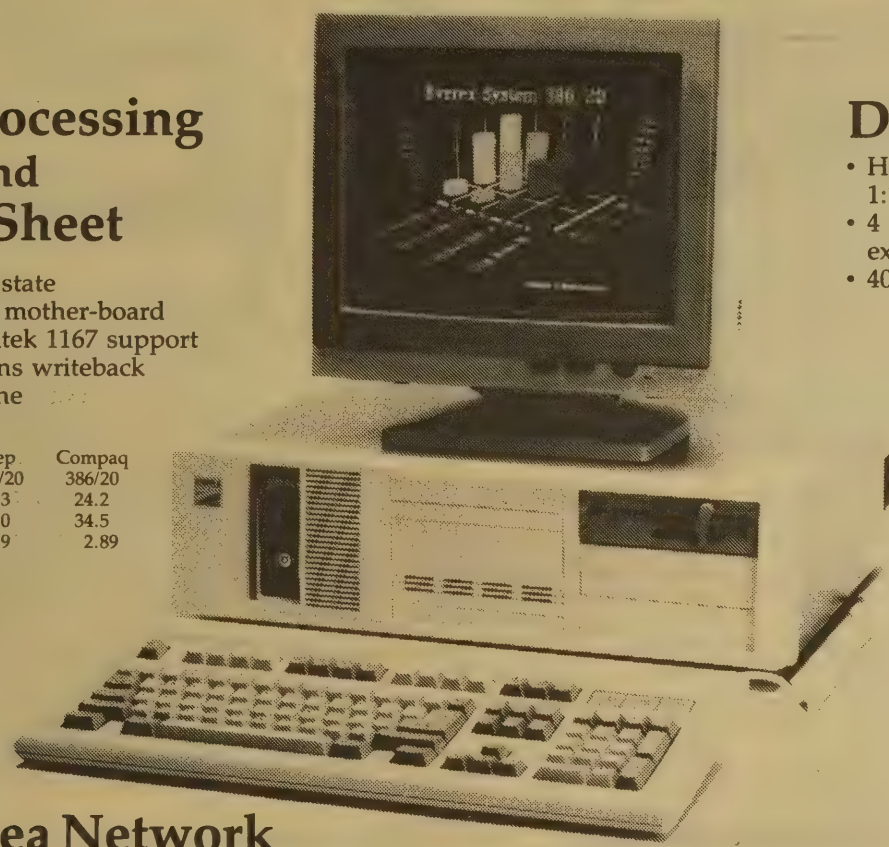

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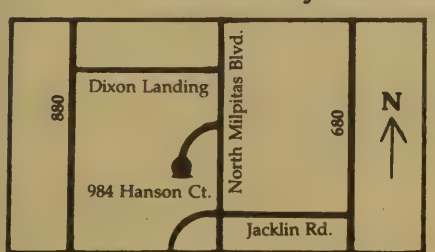

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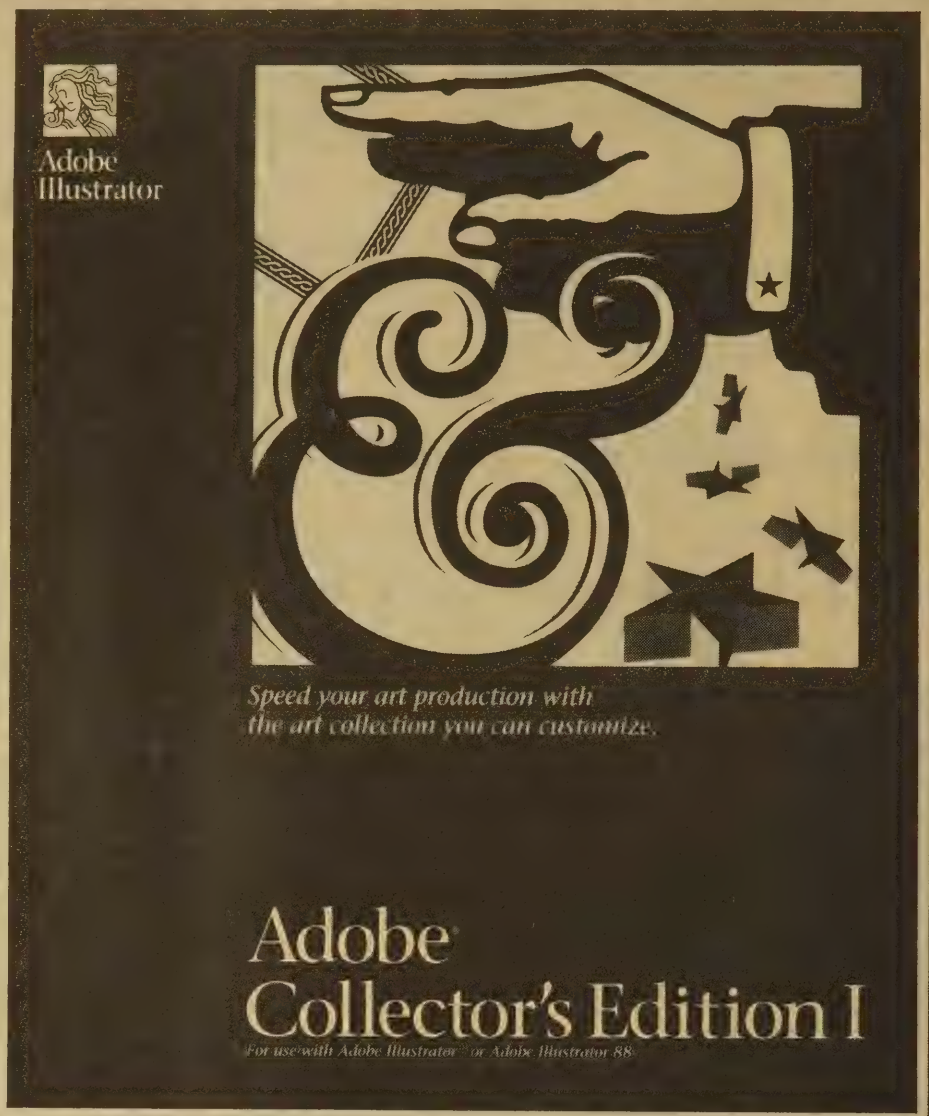
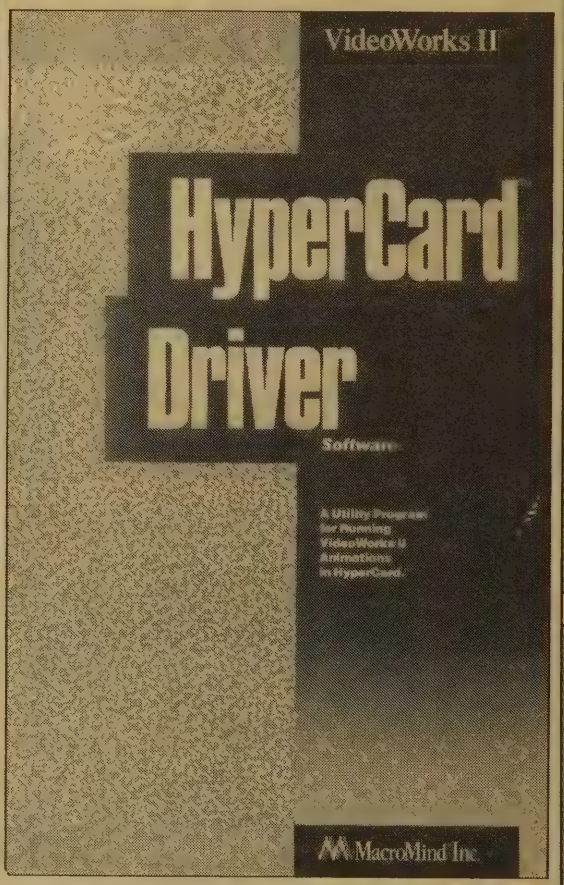


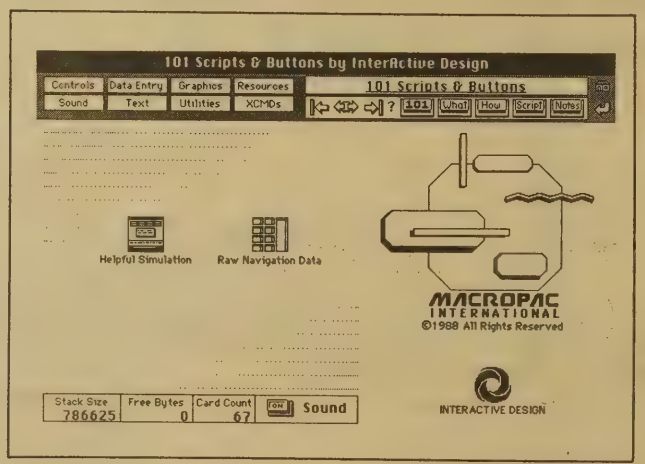
New PostScript Art From Adobe Offers Type, Borders And Dingbats

Adobe Illustrator Collector's Edition I is the first in a series of pre-built *Illustrator* files from Adobe. Consisting of two typeface outlines, 100 borders and 300 dingbats, *Collector's Edition* images are meant to be changed and modified to suit the user. Having preconstructed images that need only be modified saves the user time and effort. Because they are resolution independent images, they can be printed at whatever resolution the output device is capable of. A design book written by Adobe gives time saving techniques and tips on creating special effects. Adobe Systems Incorporated, 1585 Charleston Road, Mtn. View, CA 94039. 1-800-29-ADOBE.



HyperCard Driver Brings Animation Capabilities to HyperCard

HyperCard programmers interested in bringing color and full-screen animation into *HyperCard* may find *VideoWorks II HyperCard Driver* from MacroMind a useful tool. Stackware developers can play professional quality animation sequences on top of a card, within a card or use the entire screen with a few commands. *HyperCard Driver* imports *VideoWorks II* documents with the HyperTalk external command, XCMD. *VideoWorks II* is an animation program from MacroMind. ($99.95). MacroMind, Inc., 1028 W. Wolfram St., Chicago, IL 60657. (415) 369-3070.



101 Scripts And Buttons For HyperCard Programmers Help Create Stacks

Macropac International will soon offer *101 Scripts And Buttons For HyperCard*, a developer's toolkit for Apple's *HyperCard* application. This toolkit provides the HyperTalk programmer with such programming aids as various kinds of buttons including random tune buttons, an animation recorder, a *HyperCard* resource directory, a tune recorder, text processing utilities and imbedded games. Anyone wishing to obtain an advance copy of *101 Scripts And Buttons* can send a credit card number or check for $54.95 to Macropac International, 9855 Stevens Creek Blvd., Suite 168, Cupertino, CA 95014. (408) 996-8143.

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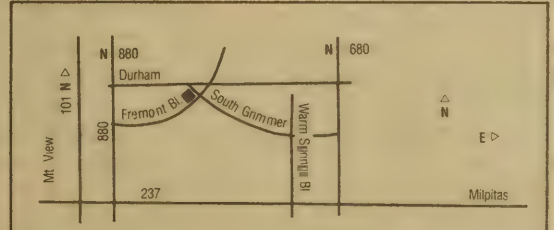

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BY BIRRELL WALSH

The Hyperbook

In the last few weeks I have seen two examples of a whole new thing under the sun. It is the hyperbook: *HyperCard* used for a purpose that once belonged only to print.

This form of publishing makes *colossal* economic sense. In paper publishing, you write, then illustrate, then typeset or electronically compose the page. Then you must print, bind and distribute the result. When you produce a hyperbook, you write, illustrate and compose the document in the same program—*HyperCard*. Then you can make copies of the disk as the orders come in. The marginal cost per sale is one disk, some shrinkwrap and mailing. Marginal indeed. It's small enough to let people get into publishing who could never get started in the print business.

Draw The Kid A Picture

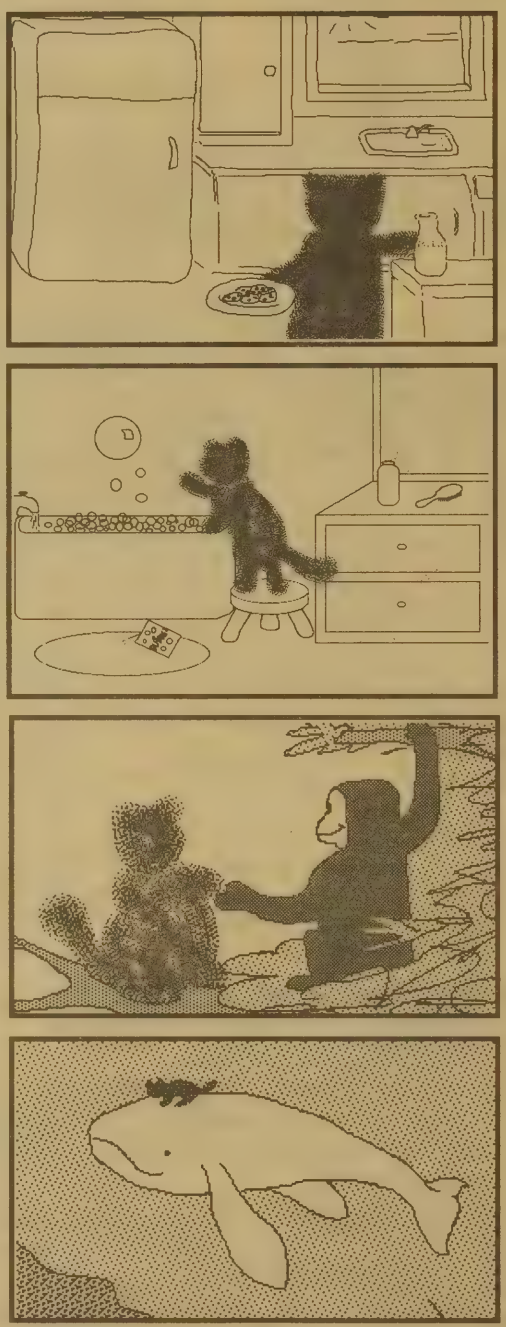
Amanda Goodenough is charming and the founder of the hyperbook industry. She wrote a set of stories about the black cat Inigo. Apple has used the first of them as a demonstration for *HyperCard*. You can get all four as *The Amanda Stories* for $19.95 from: The Voyager Company, 2139 Manning Avenue, Los Angeles, CA 90025. 213/474-0032

She wrote the Inigo stories for children—her own, I believe—and they will charm kids. They move between scenes by clicking on various parts of the picture until something happens. They might click on a door to have Inigo go through it, or on a tree to have Inigo climb it. The stories have almost no words, so even the youngest child can follow them.

Because you, the user, choose what is going to happen, and because you are physically involved, you find that you cannot give up one of the Inigo stories until the last card has turned. Adults become as enthralled as children, clicking on the screen to move the cat through adventures. As in all hypertext, the stories branch. You can send the cat one way one time, and another on a second pass.

These stories are not very complex, but they certainly do suggest the future of the graphics-only hyperbook. If you have children, you will probably find yourself wanting to do a children's story of your own.

These stories address one of the markets for such books—the child. There are other markets for wordless books, though. One is the illiterate population. In fact, Drexel University's literacy program uses *HyperCard* to teach reading and writing to adult illiterates.



Amanda Goodenough's Inigo series is not only an instantly-accessible demonstration of the potential of HyperCard, it's entrancing to everybody from toddlers to seniors. Graphics in each screen provide buttons which lead to different adventures.

The cost of hyper-publishing is small enough to let people get into publishing who could never get started in the print business.

A third market for the all-graphics hyperbook is multilingual. You can design an interactive adventure—or instruction manual, or tour guide—for people who do not speak any language you know. With cartoons and scanned-in images, you can show people something instead of telling them.

Finally, you can do interactive comics in *HyperCard*. There may be text or not, but the freight will be carried by the graphics. There should be a lot of money in this market. If you want to get started in hypercomics, you should get the *Amanda Stories* for the scripts they contain. They were written by Dan Winkler, the developer of the HyperTalk language. They are protected, but I dare say one could find a way to view them.

The Hyperessay And Reference Work

Far from a children's book is *Hypertext For Beginners* by Servando Gonzalez. It may be the first real Hypertext essay for adults.

This multi-stack is about Hypertext, and it is *in* hypertext. It is a delight to navigate in this hypertext essay. Gonzalez is literate. His opinions are entertaining and well made. And there is no way to read straight through the stack. His linkages thread you all around the topic. You are very ready to understand his discussion of the disorientation a hypertext user can experience.

It has a very complete bibliography of the topic. It has a valuable list of 51 varieties of software that use hypertext (or something quite like it), where to find them and a short description of what they do.

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❒ **LAS VEGAS (116)** - Craps, Roullete, Poker, & more. CGA req., Basic on some.
❒ **3D CHESS V1.01 (215)** - Excellent chess game. Switch between 2D & 3D.
❒ **SAM SPADE V1.0A (226)** - Great detective game. CGA required.
❒ **SOLITAIRE (211)** - 4 different games. Nice graphics. CGA required.
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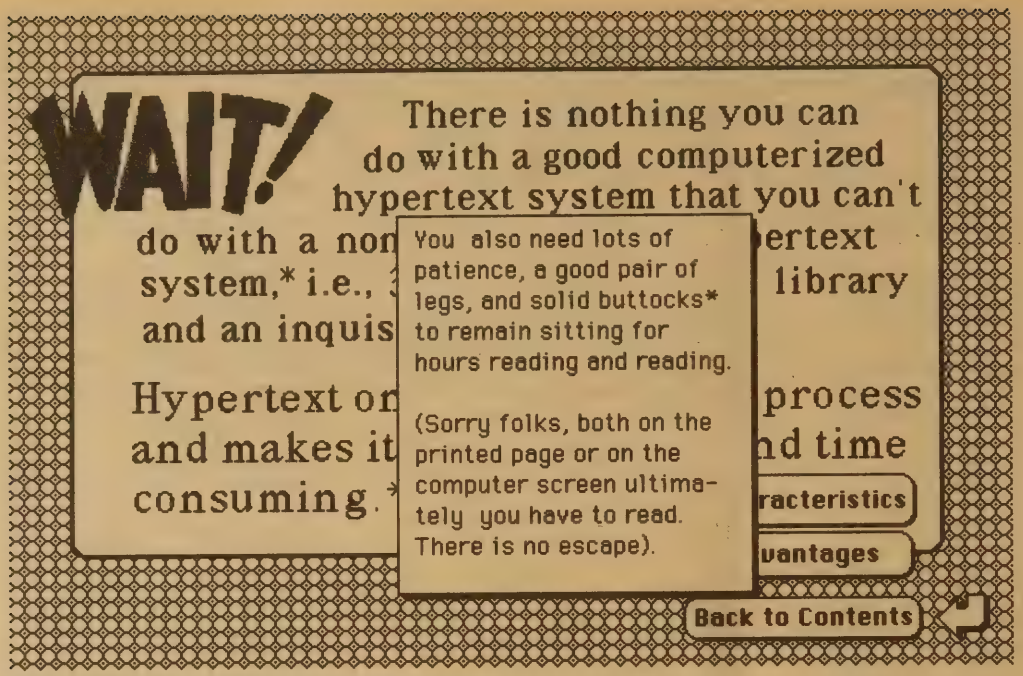
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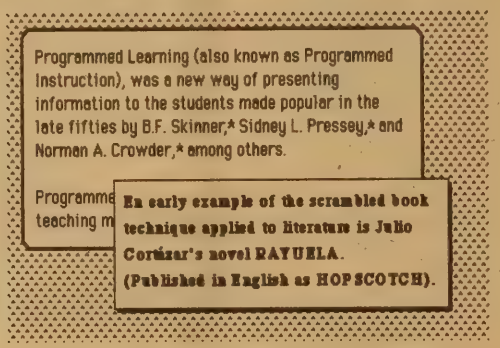
(Sorry folks, both on the printed page or on the computer screen ultimately you have to read. There is no escape).


Programmed Learning (also known as Programmed Instruction), was a new way of presenting information to the students made popular in the late fifties by B.F. Skinner,* Sidney L. Pressey,* and Norman A. Crowder,* among others.
Programme
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An early example of the scrambled book technique applied to literature is Julio Cortázar's novel RAYUELA. (Published in English as HOPSCOTCH).

Hypertext For Beginners offers an interactive introduction to the world of links.

It has a biographical index of the people involved in the field—including Alfred Korzybski, founder of General Semantics. For the information alone you would be willing to buy this hyperbook.

If you are intrigued by the idea of Hypertext, you owe it to yourself to get this set of stacks. It will probably inspire you to craft a hyperessay for adults, as the Amanda stories will inspire you to make stacks for children. *Hypertext For Beginners*, for: $24.95. From: Intelibooks, Ediciones El Gato Tuerto, PO Box 210277, San Francisco, CA 94121

Go Forth And Weave. . .

We need a verb that means "to compose hypertext." Since the word "text" itself comes from a Latin root meaning "woven," let us borrow the metaphor and use the English word "weave." It conveys the utility, the beauty, the pattern and the idiosyncracy of hypertext.

Go forth and weave. And let us know what you have woven. You can leave messages, comments, praise and blame for stackware and *HyperCard* on the WELL (415-332-6106; user ID "birrell") or CompuServe (User ID 72466,3567) or by US Mail to: Birrell Walsh , PO Box 1104, San Francisco, CA 94141.

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- Slide in type case.
- Keylock switch.
- Power on LED.
- Turbo mode LED.
- Hard disk drive LED.
- Hardware reset switch.
- No hidden cost, Ready to run.
- Optional NEC V20 (SI:4.0)

$560

15 days money back guarantee for S/W compatibility

640KB memory	$610
20MB hard disk	$275
30MB hard disk	$300
2nd 360KB floppy	$75

EXP 80286 System

- 512K memory, expandable to 1MB
- 6/10 MHz 0 wait. Norton SI:11.5
- Keyboard (84 key)
- 1.2 MB floppy drive
- Printer port
- Hard/floppy disk controller
- Real time clock
- Hercules compatible mono card
- 12" tilt & swivel monitor
- Keyboard
- Hardware reset switch
- Turbo mode switch & LED
- 230W power supply.
- No hidden cost - ready to run!
- Optional Tower case

15 days money back guarantee for S/W compatibility

- 80286-10 cpu, Phoenix Bios

$875

12 MHz 0 WAIT System ONLY $980

Options:

EGA board & monitor	$365
20MB (ST225) Hard Disk	225
40MB (ST251) Hard Disk	375
80MB (ST4096) Hard Disk	675
640KB Memory Upgrade	70
Tower Case	175

EXP 80286/20 System

- 1MB Memory installed
- Fastest 80286 system. Faster than IBM PS2 model 80
- 80286 CPU running 20MHz, 0 wait
- Latest PHOENIX Bios 3.10 (built-in setup)
- 80287 socket
- Express RAM slot expands memory to 8MB running at full processor speed
- Memory beyond 1MB configurable as extended or expanded (LIM 4.0)
- 1.2MB floppy drive
- Printer port
- Hard/floppy controller
- Real time clock
- Hercules compatible mono card
- 12" amber TTL monitor
- Keyboard (84 keys)
- Hardware reset switch
- 230W power supply
- Chips & Technology, NEAT chipset
- CPU board is made in USA
- Norton SI=23, Landmark=26
- No hidden costs - ready to run!
- Detailed technical manual available

15 days moneyback guarantee for S/W compatibility

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Non-Volatile EMS/RamDisk Multifunction Board For IBM PC/XT

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- Handles 2 hard & floppy drives
- On-board low level format S/W
- Surface mount technology
- Most accurate 2,7 RLL data separator
- Drives with up to 16 head & 4096 cylinder

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Star NX 1000

- 144 CPS high draft speed
- 36 CPS NLQ printing
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- Proportional printing available
- Push button control panel
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$189

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Quadram AT I/O Card

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- 1 serial port (DB 9 pin)
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- Made in USA

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- Standard ST506/ST412 Interface
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- 110 MB capacity with RLL controller
- Can be mounted and operated in any orientation (vertical or horizontal)
- Auto parking mechanism

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*Installation available on your 8088, 80286 or 80386 system.

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- Printer Port

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Nanao Flexscan	545
14" TTL white soft	125

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Everex VGA	245
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Everex EGA (800 x 600)	150
Everex EMS multifunction	65

PRINTERS

Ricoh daisywheel (22 cps, 132 col.)	$199
Epson LQ 500	365
Citizen 180D	185
Citizen 120D	150
Panasonic 1091i	215
NEC P2200 24 pin	349
Epson LX-800	209
Star NX-1000	189

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3.5" 720KB/1.4MB	89/125
ST225/238 hard disk	225/239
ST251/ST251-1 hard disk	375/450
ST4096 hard disk	675
ST125/138 (3.5", 28ms)	255/355
Micropolis 70MB	650

CPU BOARDS

8088 cpu bd (4.77/8MHz)	$75
8088 cpu bd (4.77/10MHz)	79
80286 cpu bd (6/10MHz)	245
80286 cpu bd (6/12MHz)	299
80286 cpu bd (80/20MHz)	495
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(1 MB memory, 80386-20 CPU, EMS S/W, Diagnostic S/W)

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BMUG

BY DAVID MORGENSTERN

The Month Of Shameless Self-Promotion

Welcome to the fourth BMUG column. It's the month to shamelessly plug BMUG products—but you'll like it!

Be Happy—Don't Worry. There's BMUG.

The weekly BMUG main meeting is the Macintosh Garden of Eden—no Apple and the Snake jokes allowed! In the blue glow of a projected Mac-screen, the workday competitions are put aside and the event begins. The famous hardware surgeons, Chuck Meyer of M.A.C. and John Sawyer of CJS Systems, stand in the corner and talk shop. Programmers swap job prospects, while the weekly printer question is posed. The crowd licks its collective chops, waiting for the presentations to begin. Go BMUG!

When Is A Show Hot And Not?—The Report From Macworld Expo

Every survivor of the Boston Macworld Expo was recently forced to stand up and give their report to the faithful stay-at-home crowd. This ritual debriefing is a meeting tradition, but was supposed to have been enhanced by two high-tech productions: a video-tape shot at the Expo and a live telephone hook-up broadcast from Boston to our main meeting.

The video has yet to show up on this side of the continent. It was given to a hotel desk-clerk for transfer to a kind volunteer BMUG tape courier. We hoped to show it at the main meeting of Expo week. The hotel probably thought it was a porno video and wanted to bootleg a copy. Were they surprised!

The live phone-in show was also a disaster. The BMUG crowd heard me ask questions and breathe, but little in the way of response. The answers from Boston were too faint to be heard in the hall. Everyone said that the sound problem was fixed on the last question. Of course!

Here's the word from the BMUG Boston crew:

• **Impressions.** The weather was hot and the show was "dull." "There were lots of people in suits not buying anything." There was "nothing new or revolutionary." The same could not be said about the food at Expo parties; "We had seafood every night!"

• **Best New Printer Not Shipping.** The Jasmine (*DirectPrint*)/QUME (*CrystalPrint*) 300 dpi printer scheduled for release in October. It features a PostScript clone, three megs of memory and RISC technology. All this means it runs fast. "Small package, nice looking."

• **Best Word Processing Program Still In Beta From Last Expo.** Paragon Software showed their "new" word processor *Nisus* (evolved from the *QUED/M* text editor). Includes a built in drawing package, speed, unlimited multiple **Undo**— and two megs of memory are not required, unlike *FullWrite*. The program is really in pre-pre-release (in computer talk, *alpha*) and will start testing this fall.

• **Best New "Weird" Product Still In Beta.** The *POEM*, Personal and Original Embroidery Machine, seems to have been the hit of the show. It embroiders *MacPaint* files with a cute little sewing machine plugged into a Macintosh.

• **Best New Product For the Every Day User.** The 32-bit color New Vista video-card from TrueVision. It's only $6,000 and does everything you could imagine, including setting resolution from software.

Of course there were hundreds of other programs and updates (released and unreleased), cards and scanners, including the new Apple Scanner, "the software's better than the hardware." I know the workers in the BMUG booth at the Expo felt **the very best new products were being shown at the BMUG booth!**

HOT TIP

Got a lot of folders open on the Desktop? It always takes a year and a day to get back to the Finder when quitting an application. Try holding down the Option key when selecting Quit from the File menu. All the folders will be closed and it will take less time to return to Finder.

Copyright © 1988 by David Morgenstern. David Morgenstern is a Bay Area "MacNurturer" and BMUG member. David is DMORGENSTERN on GEnie and himself at (415) 641-7352.

The BMUG PD-ROM

The busy BMUG booth at the Macworld Expo premiered two products and one update: The BMUG PD-ROM™, *BMUG On HyperCard* and the *BMUG Newsletter* (finally).

The PD-ROM™ is for use on the new optical storage drives for the Mac. On one 4.75 inch plastic disk is our entire 280-floppy library, all the articles in our newsletters and many volumes of messages from Mac-related information services. It wasn't an easy task.

This is the first BMUG product distributed nation-wide for the general public. Thanks to the hard work and long hours of members Stephen Howard and Raines Cohen (and many others), a contract was negotiated, a *HyperCard* interface was developed, tested and finally sent off to the publisher, Discovery Systems.

The development of the PD-ROM™ pushed the limits of the Macintosh and the nerves of BMUG activists. Problems with system software limitations gave everyone fits. Hardware reliability was critical in the handling, back-up and successful mailing of 400 megabytes of software. BMUG was very familiar to the 1:00 am shifts at the Air Ohio counter with our air-freight deliveries.

The PD-ROM™ spins away from the competition with our special BMUG-only features:

The BMUG *PD-ROM™ Index* software. One of the problems with the CD drives is their speed, or lack of it. The average access time for the Apple CD-SC is 600 milliseconds, compared to the 20 ms access of your hard-disk! Imagine browsing through our 7000 files with the Finder—you'd need a snooze alarm! The *PD-ROM™ Index* allows the user to browse, copy and get information about everything on the disk, bypassing the Finder.

HOT TIP

Try holding down the Option key when clicking the Close box on a window in the Finder. If you're trying this for the first time, open a bunch of windows all around the screen and make some popcorn.

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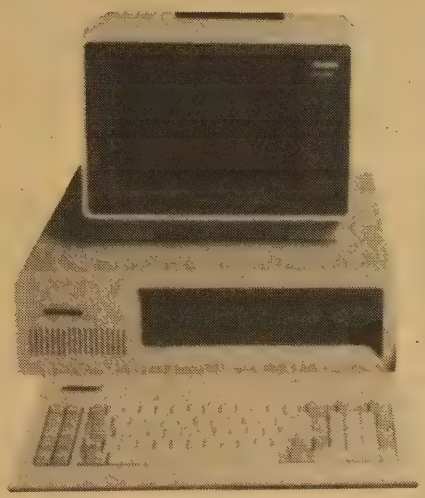

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Star	
NX 1000	$199
Okidata	
192+/193+	$309/469
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321/341	$520/680
Fortis	
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Samsung mono	$72
Samsung color	240
Samsung EGA	340
NEC Multisync	570
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Hard disk controller	60
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Logimouse C-7	75
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Printer cable	8
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Seagate ST 238	230
Seagate ST 251 - 40 MB	360

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Paradise VGA Plus	250
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Everex VGA	249

SOFTWARE

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☐ #287, #288 FILE EXPRESS: An information management program. Small and medium sized databases are easily manipulated by using menu driven commands $12

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COMMUNICATIONS

☐ #310 QMODEM: Fast and easy to use. Has a windowing feature $6

☐ #499 PROCOMM: A professional communications program $6

GRAPHICS

(Programs listed require a color graphics card.)

☐ #652 HI RES RAINBOW: This program is easy to use and works with either a CGA or EGA card. Can be used with either a mouse, joystick, or the keyboard to create artwork $6

☐ #701, #702, #703, #704 DANCAD3D: A 3D Cad system that features rotation and built-in animation. An advanced CAD program for engineering applications $24

PROGRAMMING TOOLS

☐ #666 SPL: A structured programming language. A hybrid mix of structured BASIC with Pascal $6

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☐ #457 GREATEST ARCADE GAMES: This includes Striker and Space Wars, and many more. A must for your game library $6

☐ #678 GOLDEN WOMBAT OF DESTINY: A text adventure from England. You too can discover the forbidden city of the Great Lost Empire and unearth the mysteries it contains. (Requires a color graphics adaptor) $6

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☐ #528 New York Word: This program offers mail merge, test buffering, split screens, and a host of special features $6

☐ #455, #681, #682 PC TYPE+: This processor is from Jim Button's library. Easy to use and combines easily with PC-FILE+ for mail merge $18

☐ #480 PC Outline: Comparable to ThinkTank. Outline helps you to arrange and re-arrange items by using different categories of classification $6

SPREADSHEETS

☐ #199 PC CALC: This program is easier to use than Lotus, very powerful and effective $6

☐ #696 QUBECALC: This spreadsheet is three dimensional, with an X, Y, and Z axis. Commands are similar to Lotus $6

UTILITIES

☐ #133 ULTRA UTILITIES: Lost files may be recovered using this program. Features include file review and modification $6

☐ #405 DESKTEAM: Memory resident utility program that has a phone dialer, printer controller, notepad, calculator, calendar, and an alarm clock $6

☐ #478 HARD DISK UTILITIES: A selection of the best utility programs that have been selected from over 25 disks in the library and compiled onto one disk for your ease of use $6

☐ #517 IMAGEPRINT: This program allows your dot matrix printer to generate documents that are in Near Letter Quality format $6

☐ #523 SIDEWRITER: Text files may be printed sideways with this useful program $6

☐ #558 PC PROMPT: Memory resident program that has HELP commands on an online mode. Provides syntax of most DOS commands $6

☐ #608 AUTOMENU: Programs are easily accessible with this program. Batch files and DOS commands are easily executed by "point and pick" $6

☐ #728, #729 HOMEBASE: The next generation in a desktop organizer. Features a calculator $12

☐ #610 PACKDISK: Optimize and speed up your disk access time $6

☐ #611 BLACKBEARD: The programmer's editor for writing code in PASCAL, C, or FORTRAN $6

☐ #579, #580 PASCAL TUTOR: Learn to program in PASCAL in the convenience of your own home $12

☐ #598 DISKTOOL: Like Norton's Recover erased files or fix damaged files $6

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The BMUG stamp of quality. BMUG has never tried to have **the largest** software library in the world, just one of the largest and the best. We examine and test every piece of shareware and public domain software that we offer for sale. We try to keep versions current. You won't find programs that only work on a 128K original Mac running System 1.1 in the BMUG Library. You also won't find a 40 meg folder filled with recovered files and old Excel spreadsheets, labeled "This is all junk" on the P*D-ROM*™ .

The PD-ROM™ is a bargain. You won't have to sell blood for a copy of this piece of plastic. The PD-ROM™ is only $100! That is a tremendous savings over the price of our Library on floppy disks and half the price of the other spreads. This is one of those once-in-a-lifetime occurrences where the highest quality is combined with the lowest price. Amazing!

One ShortStack, Side Of HyperCard

For years everyone has been wanting a directory or encyclopedia of the BMUG software library. It is happening now, thanks to the editor, Scott Kronick (BMUG activist and author), well before the 21st century. *BMUG On HyperCard* is the first volume of a multi-volume set that will span the entire Library. The 200+ page book contains a screen-dump of every stack with a short description (and many times a review or warning), a number of articles on *HyperCard* and an index. It's only $15 and comes with a disk of stacks. No HyperHome should be without *BMUG On HyperCard*.

The BMUG "Newsletter"

Start exercising your arms and wrists. Warn the postal carriers! The latest issue of the *BMUG Newsletter* is out and mailed! What's all the fuss, ask those readers that have never seen the *Newsletter*? Our semiannual newsletter is now 350 pages and weighs more than our Siamese cat, Dorothy!

The *Newsletter* contains articles from members around the country and from authors that write for all the Mac journals. Topics range from programming tear-off menus to the experience of single-parenting with a Mac. King of the BMUG HelpLine, Steve Costa, has a great article on trouble-shooting dead disks, which also includes a list of error messages and their meaning! There are some wonderful lists in this issue: a list of most of the Mac BBSs around the country, an *EchoMac* Directory (*EchoMac* is an international group of bulletin boards that shares messages of Mac interest), a Mac glossary and a Mac bibliography. Lots of great stuff!

The only way to get this issue, Summer/Fall 1988, is to become a member of BMUG. That's $25 for six months and $40 a year.

Bytes And Pieces

In a previous episode we spoke about rebuilding the invisible, but very important Desktop file by holding down the **Command** and **Option** keys while double-clicking the mouse on the *Finder* icon. Readers with tired, heavy fingers rebuilt their Desktop file. People with light fast fingers, used to the newer soft-touch keyboards, had perhaps a different result.

When you turn on the Mac, a System on a floppy disk or a hard disk is loaded, and that disk's icon is put at the upper right-hand corner of the screen. But what if you want to use a font or DA on a different System disk? You could Shut Down and stick the new System disk in the drive, but that can take a minute or two. It's much better to emulate the fast-fingered user by double-clicking on the Finder icon of the new disk (that you want to switch to), hold down the above mentioned keys—**and take your fingers off the keys right after the mouse clicks.** An interesting feature of the new 6.0 System is that it will not allow an earlier version of the System to be switched with this process.

Upcoming Events

September 22: I. D. D. *Dreams* (CAD) & NeuroSystem's *MacBrain*.
September 29: Layered's *Insight* (Accounting) & Ehman Engineering.
October 6: Articulate Systems (Voice Activated Control) & Mediagenics *Manhole*.
October 13: Shiva *NetBridge* (Network Stuff) & Magna *Empower*.

They're Back...

The BMUG Help Line, (415) 849-HELP, provides technical assistance and telephonic hand-holding during business hours (9:00 a.m. - 6:00 p.m.). If your question can't be answered on the spot, we try get you in touch with someone that can help. Of course, not every problem can have a happy ending—but we try.

Viruses are back in the news. Someone has been going around the Bay Area spreading the *Scores* virus like a computer-age Typhoid Mary. Over twenty computer stores were struck, including M.A.C., which sells BMUG disks over the counter. Perhaps this started the rumor that BMUG disks have viruses on them!

BMUG disks have never had a virus problem. We are very careful to separate the production of our

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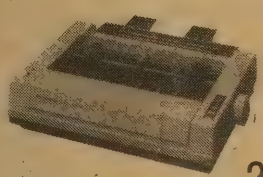

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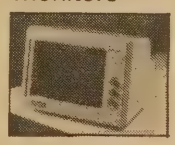

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disks from the regular office work, help and demonstrations. Some of our programming activists are working on some new strategies for dealing with infections.

The first virus written in the *HyperTalk* language has been discovered. It's called the *HyperAvenger* virus. It is "harmless" since no actual damage is done to disk or data, but it will certainly force infected users to spend hours removing the virus from their stacks. The virus displays the following message: "Greetings from the HyperAvenger! I am the first *HyperCard* virus ever. I was created by a mischievous 14-year-old, and am completely harmless. Dukakis for President in '88, Peace on Earth, and have a nice day." Punk kids! Get a job!

A Timer For Your Mac?

BMUG and the BMUG HelpLine are fertile grounds for new ideas in Mac soft- and hardware. Members have solved problems of heat build-up (*MacChimney*) and sound (*MacRecorder*). A recent call on the HelpLine has evolved another new product.

Kim Wennerberg called a few months ago to ask BMUG's opinion on the On/Off controversy. Electrical devices suffer the most wear in power-up (in English—*turning on*). Kim, a BMUG member, truck driver and commodity trader, receives live prices via a satellite. The prices start at 5:30 am, but he didn't really need to be trading until 7:00. Should he leave the Mac II on all day and night to receive his early morning data?

The answer to this question is double-sided. The Mac II isn't really bothered by 24 hour use, but the hard-disk (a physical mechanism) might suffer extra wear from this practice. Is there a device that will turn on a Mac for you?

If you have a Mac Plus or SE, there's no problem turning on your machine anytime or anywhere. The X-10 Powerhouse Co. makes a programmable timer to turn on any appliance, including your Mac. This product is carried in many electronic supply stores and catalogs. You may not know that they also make a remote switching device that works through the phone. It's called the Telephone Responder Set ($65 for the three piece set) and would be a big help for BBS sysops to reset their Macs when the board goes down while they're at work.

The Mac II is a different kettle of fish. It's turned on and off by a message from an ADB (Apple Desktop Bus) device — that big button on the keyboard. Simply turning the power on and off won't do the trick. Kim talked to his electrical engineer father, Gunnar, and has produced the answer—the Mactivator™.

The *Mactivator* is a digital alarm clock with an ADB cord attached. It will turn the Mac on from the alarm setting (don't worry, the snooze bar has been disconnected). Kim also has a device that works with the Telephone Responder Set, so you can reset the Mac II over the phone. This is a limited manual production in the BMUG hacker tradition. The Mactivator™ (timer) is $45 and the phone model is $35 (you need to buy the X-10 device yourself). Call Kim at (415) 234-5178 or write to P.O. Box 115, Pt. Richmond, CA 94807.

Everything Else

BMUG has one of the most up-to-date, comprehensive software libraries around with 250+ double-sided disks filled with the latest versions of public domain or shareware programs and *HyperCard* stacks. New disks are unveiled almost every week at the Thursday general meeting.

Our BBS offers the latest versions of files in our software library as well as news, private mail, rumors, etc. The BMUG BBS is part of the worldwide EchoMac Network on FIDOnet; by calling a local FIDOnet BBS in your area, you would then be able to get in touch with us wherever you are as well as send mail to users everywhere! With our multiline capability you are now be able to have access to BMUG almost 24 hours a day. It's easy to use, fun and a great resource.

BMUG has many great Special Interest Groups (SIGs). They're a great way to meet people doing or trying to do the same things you are. They include the Alpha/Beta SIGs (for new users and not-so new users), Desktop Publishing, Computer-Aided Design, *HyperCard*, Music, Professional Users, Programmers, Telecommunications, A/UX, Database Developers and more.

You can reach BMUG at any of the following numbers: 849-HELP (Help Line) • 549-2684 (Business Office) • 849-9114 (Announcements/Meeting Schedule).

What is BMUG? Good question. BMUG is an educational non-profit corporation promoting the exchange of information. Like any growing organization it is many different things to its 4500+ international membership.

BMUG, Inc. is a computer user group located in Berkeley, California. The group specializes in computers using a graphic interface. For a while that meant the Macintosh™, but now includes other makes, models and operating systems. BMUG supports many Special Interest Groups (SIGs), a five-line BBS, help-line, software library, weekly meetings and much more. BMUG also puts out a semi-annual 350 page book that we call our "newsletter." Our motto continues to be: We're in the business of giving away information.

Come and join in the dialogue every Thursday evening, 6:00-9:00 (or whenever we finish), in the Physical Sciences Lecture Hall on the U. C. campus.

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BY ROBERT BEAUCHAMP

Connectivity, Graphics And WordPerfect

A Story Of Frustration And Missed Opportunities On The Connectivity Battleground

If you've been reading this column regularly, you've learned of a number of products which aid you in transferring and converting files from an IBM PC or compatible to an Apple Macintosh. In the beginning, this sounded like a tremendous feat in itself. Now, however, we know that it is possible and even simple.

Up until now, however, the files we've been transferring back and forth and converting, to the delight and amazement of our friends and family, have been word processing, database and spreadsheet files. What these files have in common is that they are text based. In other words, lots of words and numbers but no pictures.

One thing nobody seems to be talking about in these early days of the connectivity movement is how to transfer a file containing *graphics* from one environment to another. And there is a good reason for this: it's not easy.

If it were, I wouldn't have to relay to you this terrible story about about a warrior in the trenches of the connectivity battleground. It's a fictional story, true, but so was *All Quiet on the Western Front.*

While this story ends sadly, we're not stopping our mission here. In the next few columns we'll be exploring this issue of connectivity and graphics; we hope to find some solution that allows you to transfer graphics files as easily as text files, crushing the evil forces of incompatibility once and for all.

A Sad Tale

This is the story of Cynthia, a mild-mannered desktop publishing manager at a medium-sized firm in downtown San Francisco. During the day she is known as the one who gets everything done nicely and on time. But at night she is a stalwart fighter in the war to overcome incompatible file formats and entrenched departments who've chained themselves to one type of machine and won't change, no sir, not in a *million* years.

In the twilight hours she writes proposals saying why she needs a Compaq 386 *and* a Macintosh II. She strings wires across the office, cracks open computers and puts in add-on boards, and networks big screens and laser printers until she can satisfy the needs of the hip marketing people with their Macs and the stodgy accountants with their PS/2s with equal ease and success.

One day Cynthia was browsing in her favorite software store when she saw two new products on the shelves. *WordPerfect* 5.0 and *WordPerfect for the Macintosh.* "Great!" she cried, "this is exactly what our office needs!" She quickly ran up to the office and convinced her reluctant manager to shell out the $1000 for both applications, including tax.

The reason that Cynthia was so excited is that, as a regular reader of *MicroTimes,* she knows that when you have to operate in both the Mac and PC world it's best to pick out an application that has both Macintosh and PC versions. This is because they contain translators that let you open up files from the other version without any muss or fuss.

She was also excited to see that *WordPerfect* 5.0 for the PC has *graphics*! Including a cache of clip art. This, combined with a columns feature, headlines, style sheets and Bitstream fonts, allows for actual desktop publishing with nothing more than a word processor.

The thought of transferring files to the Mac with its graphical interface simply made her head swim.

But as she started to work on this project and had other employees experiment with the applications, both good and bad reports began to reach Cynthia.

First of all, and probably worst of all, is the sad news that *WordPerfect for the Macintosh* files and *WordPerfect* 5.0 files are *not* compatible. Not only are they not compatible, but they are not even directly convertible. You first have to convert the *5.0* file into a *WordPerfect version* 4.2 file and then open it up on your Mac. In the reverse, a *WordPerfect* Mac file has to be saved as a 4.2 file to be used on the PC. (Apparently this is being addressed in a future release.)

One thing nobody seems to be talking about in these early days of the connectivity movement is how to transfer a file containing GRAPHICS from one environment to another. And there is a good reason for this: it's not easy.

Why has WordPerfect strayed from the path that its major competitors, Microsoft with *Word* for the PC and Mac and Ashton-Tate with *MultiMate* for the PC and *FullWrite Professional* for the Mac, have been so careful to follow? Why does it seem that one hand not only doesn't know what the other is doing but doesn't seem to know that the other hand even exists and is connected to the same body?

The reason is graphics. *Word* and *MultiMate* don't feature any graphics functions. *Word* doesn't even take advantage of Microsoft's own graphical interface in *Windows* 2.03 Presentation Manager. It's relatively easy, then, for these applications to convert their files from one system to another.

WordPerfect 5.0's graphic functions place it head and shoulders above the competition in the high

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end word processor market. Before you get the idea that it is some kind of Macintosh application for the PC, however, it is important to understand that what *WordPerfect* 5.0 offers is a preview function that allows you to see what the page will look like when it's printed. While you're working *WordPerfect* looks pretty much like any other word processor.

To place clip art or other graphics in a document, you must first create a box designed to your specifications, which includes the name of the clip art file you wish to use. In the regular word processing mode you will see the outline of your box but there won't be anything in it.

When you choose the preview function from the print menu, you're faced with an image to warm the heart of any EGA or VGA card owners. You get an almost-WYSIWYG picture of what your page will look like, including fonts, columns, headlines and pictures.

WordPerfect 5.0 imports a wide variety of graphic formats including *PC Paintbrush , GEMPaint, AutoCAD, Windows Paint,* and believe it or not, *MacPaint.*

The fact that *WordPerfect* 5.0 will import Macintosh graphics makes it even more sad that WordPerfect didn't make the files of the two versions, as difficult as it may have been, compatible.

Meanwhile, Back At The Mac...

While Cynthia was getting rave reviews from the PC users in her company for *WordPerfect 5.0.* She was getting a department-wide raspberry from the Mac users for *WordPerfect for the Macintosh.* While it has some impressive features that we've been waiting a long time to see on a Mac word processor, such as a 115,000-word speller and automatic generation of indexes, lists and tables of contents, there are two major flaws that ruin it for the user.

The first is that the page you're working on *doesn't fit on the screen.* That's right, the default setting of the margins means your text slips off the right-hand edge of the page and out of sight. WordPerfect, out of kindness I suppose, supplies a mini scroll bar at the bottom of the window to view what the people in marketing are calling the "phantom 1/2 inch" or the "1/2 inch WordPerfect forgot." Shades of the Osborne.

You can certainly change the margins or the window size if you wish, but you'll have to do that for every document you create. True, *WordPerfect* does automatically move the whole page over while you're typing a line so you can at least see what you're writing. There is nothing more annoying, however, than not being able to just glance at your document and read it, instead of having to use that stupid little scroll bar for every line you read.

The second major flaw is so annoying to the user that it makes using *WordPerfect for the Mac* just about prohibitive. While you're typing away, the words on the screen flicker. They don't flicker when you're not typing, just while you're working and, heaven forbid, looking at the screen. This happened on a one megabyte Mac Plus. If one megabyte isn't enough memory to run a word processor without seeing the actual flicker while the screen refreshes itself, then the thing is too big.

The Macintosh is already notorious for its own barely noticeable flicker. Add to that *WordPerfect*'s Las Vegas style flashing and there isn't any user who wouldn't be driven off the edge.

By this time Cynthia was pretty despondent. While *WordPerfect* 5.0 features encourage PC users to access vast volumes of available clip art and start caring about what their documents actually look like, she knew for the most part that its graphics capabilities are limited. Without the use of a mouse or pull-down menus, and burdened with a heavy reliance on function keys, there isn't the fast paced cut-and-paste that she's used to. While the page preview looks nice, you can't edit or manipulate it in any way. Compared to any graphics-based word processor or page layout program, *WordPerfect* 5.0's features are clumsy to use.

And of course, *WordPerfect for the Macintosh* was a total bust.

No Cigar

WordPerfect Corporation had a chance to grab the brass ring. There is a great need for an excellent high end word processor for the Mac, a word processor for the PC that utilizes graphics *and* easy-to-use pull-down menus and a mouse. And of course, to the connectivity-minded, there is a need for full compatibility between the two of them. Already becoming the dominant force in the PC word processing market, WordPerfect Corp. could have grabbed the lion's share of the total market and made the competition really scramble.

Instead, *WordPerfect* is just another horse on the merry-go-round. Sure, it may be the prettiest one, with the most gold paint, but its still just another horse nonetheless. Someone else is left to grab the ring.

As for Cynthia, the last time I saw her she was down at the software store looking at Aldus' *PageMaker* for the Mac and *PageMaker* for the PC. Which is what we'll cover next month. □

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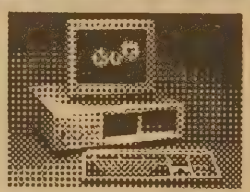

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BY BENNETT FALK

SCO MultiView: Another Approach To Window-Based UNIX

Nearly 20 years after UNIX was introduced, it's quite a shock to find UNIX developers scrambling to catch up with ideas about multi-tasking that seem to have captured the public's attention. Nevertheless, "windowing" has changed the way computer users think about their work and created precisely this state of affairs.

A personal computer user sitting down to work on single-user, single-tasking hardware can enjoy the appearance of multi-tasking through windows displayed in vivid color and excruciatingly sharp detail on a bitmapped video display and shuffled from place to place by a mouse. The effect of using this kind of interface on a one-job-at-a-time PC is to give the user an opportunity to think about (or at least to view) a lot of things at once: it is the user, not the computer, that does the multi-tasking.

Even though windows have provided a convenient way for users to think about multi-tasking, this has not by itself translated into greater interest in UNIX.

Windowing software hasn't really been part of the UNIX canon. Throughout its history, UNIX developers have emphasized device independence, and consequently UNIX itself contains very few utilities that can't be run from the crudest of hardcopy terminals. UNIX has become a good, utilitarian, cost effective system. The development of window-based user interfaces, on the other hand, has strayed in the opposite direction, requiring hardware that is increasingly more sophisticated, more specialized and, in many cases, more expensive. For many users, window-based systems offer an "ease of use" (and in some cases an *enjoyment* of use) that makes this investment worthwhile.

The UNIX vendors willing to bridge this ideological chasm have created fascinating systems. Sun Microsystems is justly famous for its striking 19" bitmapped displays and SunView, a state of the art window/icon/mouse-based user interface.

Sun's computers, however, are also powerful multi-user machines, and the trade-offs are readily apparent. Even though all the users on a Sun system have access to UNIX's multi-tasking facilities, Sun's window-based tools can be used only on the one bitmapped console attached to each system. Users on other terminals have no access to these tools, and even if a number of graphics-based terminals could be attached to the cpu, the memory resources needed to run Sun's windowed user interface for everyone would be very costly.

Copyright © 1988 by Bennett Falk. *Bennett Falk lives in the Bay Area and works for Sybase, Inc. He writes whenever he can and hopes for the best.*

MultiView—Windowing For ASCII Terminals

A different approach to the problem of providing a window-based user interface is taken by the Santa Cruz Operation with their product MultiView. MultiView is a windowing system for XENIX, and the truly wonderful thing about it is that it will work with ASCII terminals.

This sort of windowing system has several advantages. Above all, it takes no special hardware to use MultiView: any XENIX user can run the windowing system from just about any terminal. The overhead of managing these windows is not particularly heavy, and there is no need for special versions of applications to take advantage of the windows.

The MultiView window manager is started by entering the "mview" command in response to a UNIX shell prompt. Typically MultiView puts a single menu bar at the top of the screen. From this menu, the user can run a program in a window, move and reshape existing windows, transfer data between windows, and the like.

The window manager can be set up to start applications automatically, so users need not see the window manager when starting the window system. Additionally, MultiView allows customized pull-down menus to be attached to any window, so the system can be tailored to meet the needs of inexperienced users.

All window activity is controlled by typing command sequences at the keyboard. (In fact, through version 2.2, the SCO XENIX kernel doesn't offer mouse support. This should change with XENIX 2.3.) If the terminal happens to have function keys, these can be used to reduce the number of keystrokes needed to maneuver through the window management commands.

The price of having a window-based interface that anyone on the system can use is that a lot of the frills are missing. MultiView's windows are text based: no icons are available to illustrate menu selections, and "character" graphics are used to draw boxes around the windows. Neither does MultiView use color. The setcolor utility can be used to establish foreground and background colors before the MultiView is invoked, but once the window manager is in control, the colors cannot be changed, and the same colors will be used for all the windows on the screen.

MultiView relies heavily on a library of terminal descriptions to control such things as the characteristics of windows and the mapping of function keys to window manager commands. This library is yet another variation on the UNIX "termcap" database, and those who take their delight in writing termcap entries will find many pleasant diversions in MultiView.

For example, the scrollable height of a window may be modified by changing the termcap value for number of lines on the screen. By default, the scrollable area of a MultiView window is the size of one screen (most often 24 or 25 lines by 80 columns). Editing the termcap to indicate a larger screen size increased the scrolling area as well, although values above 50 lines produced unusual behavior. A special set of termcap tokens allows the user to map window management commands to keystrokes in the terminal description.

The price of having a window-based interface anyone on the system can use is that a lot of the frills are missing. MultiView's windows are text based: no icons are available to illustrate menu selections.

Administering MultiView is, in fact, pretty easy. Most of the setup of windows and terminals is done by editing ASCII files, and the format of the files that control the window manager and desk accessories is similar to that used in other SCO products.

Installing MultiView is also straightforward. It's good to be aware that the XENIX kernel is modified during the installation and several "virtual ttys" are added to the system, but none of this requires any special skills of the person doing the installation.

MultiView delivers what a windowing system ought to deliver: it is fun to use. It is also faithful, in its own way, to the notion of device independence that motivated much of UNIX development. But there is an ironic edge to this fidelity. The no-frills windowing system is not available for the large, multi-user computers where graphics support is costly and users on ASCII terminals have no windowing facilities. It is, instead, available for small Intel-based machines with well-standardized and relatively inexpensive graphics hardware. There is no obvious reason why this should be so.

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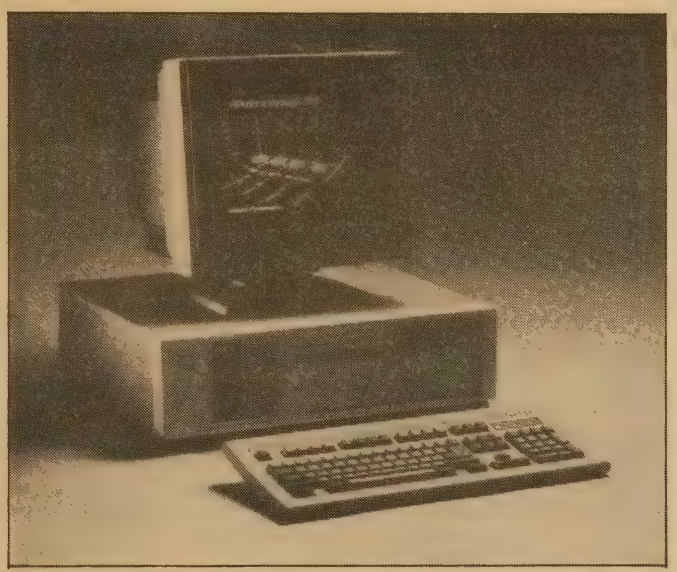

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AST Premium 386-20	3.04	20.0	21.0
Wyse 386-16	2.98	20.6	17.6
Acer 386-16	2.99	20.6	16.2
Compaq Deskpro 386-16	2.90	20.0	17.6
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Everex Step 286/12	**2.45**	**15.9**	**13.7**
AST Premium 286-10	2.02	13.0	11.1
Compaq 286-12	1.89	11.7	11.5
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BY DAVID HAWKINS

What's An Atari ST?

The State Of The Machine

From time to time I run into people who read this column who don't know what kind of computer I'm talking about. So this is a brief description of the personal computer field and where the Atari fits in.

IBM And Similar Things

There's a big company called IBM that makes what is called a PC—personal computer. There are a lot of them out there and there are companies that have copied the PC and produced "clones"—and there are a lot of those out there.

The Atari ST will run some of the programs that run on IBM-type computers. It involves using a program called *PC-DITTO* (available from Avant-Garde Systems, 904/221-2904, $89.95). However, *PC-DITTO* can be slow, and if your main concern is running IBM programs, then you might as well get an IBM-PC type of computer.

The Macintosh

The Mac is the other computer that you'll see in computer magazines. If you examine a Mac at a computer store, you'll find that it's more graphic-oriented. You use a mouse to click at images on the screen in order to accomplish tasks. (On the IBM you type in commands to start programs.) The Mac has been used a lot for desktop publishing.

A few years ago David Small created a product called Magic Sac that allowed the Atari to run Mac programs. David is releasing a new product called Spectre 128. More details on that later in this column. If you are interested in the Mac, then you'll save quite a bit of money by getting the Atari and a Mac emulator.

Other Computers

The Atari is one of those "other computers." You won't find many ads for it. When it *is* mentioned, it's often compared to an Amiga—another one of those "other computers."

Both the Atari and the Amiga are graphic oriented computers—similar to the Macintosh. Both are good for working with graphics and sound. Both are excellent game machines, with good games available on each. The two computers are close enough to each other in technical details that fans of one over the other can easily get caught up in heated debate. I'll be honest and confess that the main reason I bought the Atari instead of the Amiga was because the Atari would fit under the limit on my credit card and the Amiga couldn't. (By the same criterion, the Mac is forever out of my reach.)

By using emulators, it is possible for the Atari ST to run software written for IBMs, Macs, Atari 8-bit computers and CP/M computers, as well as the software written specifically for the ST. As far as I know this is the widest range of software that any computer currently in production can run.

Software For The Atari

There is some excellent software written for the Atari. There's an ST version of *WordPerfect*, as well as other good programs like *WordUp* in the word processing field. For telecomm buffs, there's *Flash* and *Uniterm*. *Timeworks Desktop Publisher ST* can handle desktop publishing.

In a future column I plan to cover some of the 3-D software that has recently been released for the ST. For 3-D stuff you might be better off seeing it on your dealer's computer, so you can see how good it really is.

Mac Emulator

I mentioned that David Small had produced a Macintosh emulator a few years ago. That product was marketed by Data Pacific. Dave quit Data Pacific earlier this year. He presently has a new product called Spectre 128, which is a step beyond the Magic Sac.

First, the Magic Sac works by using a set of Macintosh ROMs. The original Macs used what were referred to as 64K ROMs. Apple later upgraded the Mac, and many of the newer ROMs are 128K. When Mac users had their machines upgraded, there were plenty of the old 64K ROMs left over.

Since the Magic Sac uses Macintosh ROMs, it can run a lot of Mac software—especially well-written Mac software. Apple provided guidelines about how Mac software should be written. Just about all the software that followed those guidelines ran on the Magic Sac. However, there was quite bit of software that didn't follow the guidelines.

Eventually Dave Small improved Magic Sac to the point where it ran even the poorly written software. There were still a few programs that didn't run, but for the most part you could run the major Mac applications on the Atari using the Magic Sac.

But yet another problem came along. New Mac applications came along that used the more advanced Mac features. One of these was *HyperCard*. It's true—you can't run *HyperCard* on the Magic Sac. You never will, unless Data Pacific finds someone who can replace Dave Small, which isn't likely.

However, Dave Small is now hard at work with his own company, Gadgets by Small, Inc. The first product is called Spectre 128, and Dave says it's more advanced than Magic Sac. Does it run *HyperCard*? I don't know. The product won't be shown for another two weeks at this point. Maybe by next month I'll have a copy and can release some information.

Speaking Of ROMs

Atari has some new ROMs in beta-test for the ST. They are doing extensive testing to make sure they get all the bugs out. Some of the old bugs are already fixed and some nice new features have been added. Among the improvements:

- The floppy disk format will be closer to that of the IBM 3.5 inch disk;
- File copying or deletion can be interrupted with the UNDO key;
- Folders can be renamed;
- The "Show/Print File" option has been rewritten;
- GEM programs can be autobooted from disk;
- The File Selector has been greatly improved.

By using emulators, it possible for the Atari ST to run software written for IBMs, Macs, Atari 8-bit computers and CP/M computers, as well as ST software—probably the widest range of software that any computer currently in production can run.

Copyright© 1988 by David Hawkins. All rights reserved. David Hawkins is the host of the Atari conference on The WELL (415/332-6106); send email to dhawk. He has one of the first Atari ST 1040s sold in San Francisco goth monitors, an Okimate 20 color printer, and disks all over the room.

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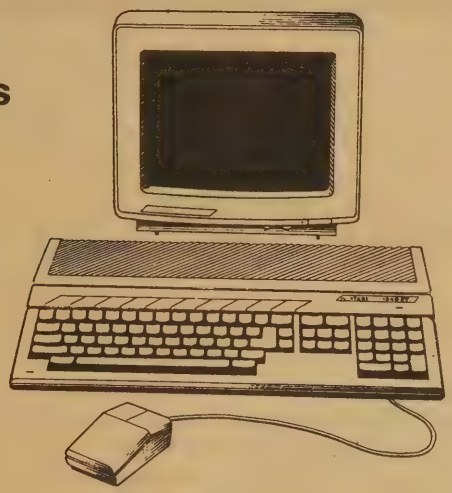

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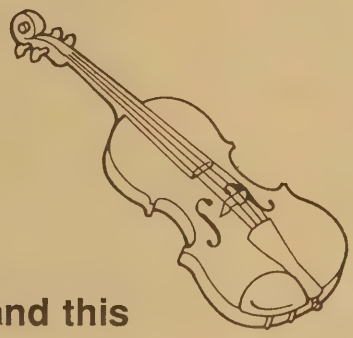

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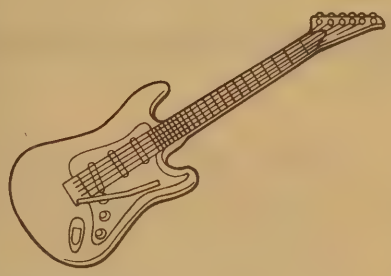

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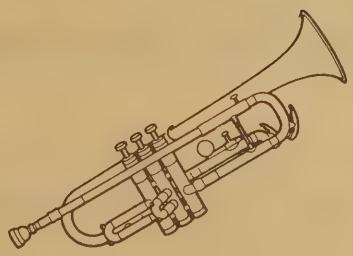

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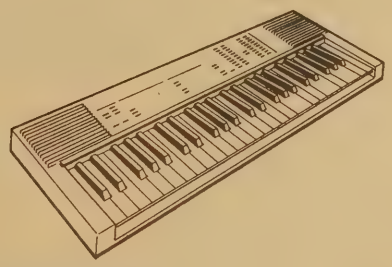

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BY MATTHEW LEEDS

DiskMaster: File-Handling With Ease And Versatility

There always seem to be two camps when you start talking with Amiga users. On the one side are those who enjoy using a graphical interface; the Windows, Icons, Menus and Pointer (mouse) used by Workbench. On the other side are those who prefer a command line driven environment; they disdain a graphical interface and call it WIMP. They claim that there are things that just cannot be done from the Amiga's Workbench and they are right. Try moving fonts or libraries around using icons.

This does not mean that third party developers have accepted this state of affairs with grace. Early on programs like *DirUtility*, *CLImate* and *Zing!* provided Amiga users with the means to gain control over files that had no icons associated with them. Programs of this type have gained in sophistication, and a new application called *DiskMaster* brings a remarkable amount of power to this genre.

DiskMaster took a little getting used to. It offers a combination of menus and gadgets in its interface. Directory utilities let you view and manipulate files by clicking directly on them and then selecting the operation you want to perform. Want to copy files from one disk to another? Just click on the filenames you want to copy and then click on the COPY gadget. Want to read a file? Just click on the filename, then on the READ gadget.

Most directory utilities offer the basics of copying, deleting, making new sub-directories, displaying picture files, reading or printing files, renaming files and perhaps printing out directories. A few include working with the more common archiving or compressing programs such as ARC, ZOO or PAK.

DiskMaster handles all of this easily and offers much more. Most directory utilities have a fixed set of gadgets for storage devices. For example, some do not recognize more than one hard disk or partition. Others do not recognize recoverable RAM disks. *DiskMaster* examines the system list and displays gadgets for each device mounted. While some directory utilities will display only some types of IFF pictures, *DiskMaster* handles all types including HAM overscan and prints them as well. You can even control the size of the printout.

One of the nicest features is the option to preserve the date/time and protection bits on files while copying them. Another useful addition is the search feature that will hunt for the location of files by name, date, size or other attributes. And *DiskMaster* is the only directory utility I've seen that will play 8SVX IFF sound files.

There are a few changes I would make to *DiskMaster* for the future. Although it does allow you to configure gadgets to call external commands, the string executed can only be eight characters in length and must be in the C: directory. This is an awkward restriction and should be removed. *DiskMaster* also tends to buffer mouse clicks, resulting in events occasionally occurring that you might not have intended. I've not had any disasters as a result of this, just delays in accomplishing my work.

Overall, *DiskMaster* is my directory utility of choice. It has replaced *CLImate* in the root directory of my hard disk and gets a thorough workout at both home and office. If you don't like having to remember filenames and command paths while working with non-icon files, or just prefer to stay in a Workbench-like environment, I recommend it.

DiskMaster is distributed by Progressive Peripherals & Software. There have been changes at PP&S as well. Dan Browning has left PP&S to form his own company, Precision INC. This is the North American arm of Precision Software Ltd., the makers of *Superbase Personal* and *Professional*, and *LOGiSTiK*. Distribution and support for these products will now be handled by Precision INC.

If you don't like having to remember filenames and command paths while working with non-icon files, or just prefer to stay in a Workbench-like environment, DiskMaster is for you.

Other Product News

Electronic Arts has stepped out of the stone age by announcing the removal of all copy protection from its creativity titles. This includes the entire *Deluxe* line of Amiga software. Current owners may obtain protection-free versions of their software by contacting EA.

EA has also released the hottest new game of the season, *F/A-18 Interceptor*. This is an air combat simulator based on the F-18 Hornet and the F-16 Falcon. Every seasoned game player I've spoken to has been raving about *Interceptor*. This game is a must-have.

The Commodore A2024 monitor was announced several months ago. It is a 13-inch gray scale monitor that supports several resolution modes including 1000 X 800. It has not been released yet, but I've worked with a pre-release version and it is impressive. The same technology has been licensed to Moniterm, a leading manufacturer of high resolution monitors. The Viking 1 is a 19-inch gray scale monitor with 1008 X 800 by 2-bit resolution. Although it will work with all Amigas, its case is exactly the same width as the A2000, and it looks very impressive sitting on top of same. List price will be $1,995.

The *3D Animation Toolkit* from Lange-Miller Computer Graphics has been upgraded to support the new features in *VideoScape* 2.0. All registered owners will receive an upgrade notice and free upgrade to version 1.1.

Rumors, Vicious Rumors

Rumors are running very hot and heavy that by the time you read this Commodore will have released AmigaDOS 1.3. Developers will have received the Omega 8 pre-release version for final testing and feedback, the documentation is done and the only details left are the distribution arrangements. You will want to get a manual along with the the new disks, as there are substantial changes to many commands as well as a large number of new ones, some last-minute additions.

Finally, I'd like to address the subject of rumors. Most magazines and newspapers that cover the computer industry include some type of rumor column, either as a separate feature or as a part of the regular coverage in a contributor's column. These columns sometimes provide a useful service, alerting users to trends and developments in the industry. Sometimes they have the potential to damage either individuals or companies, by leaking information earlier than desired by those covered or by publishing flatly untrue information.

Two examples may serve to explain the problem. The premature announcement of an upgrade to an existing product will cut the sales of the existing version. Should the announcement be untrue, or too early in the development cycle of the upgrade, the cash flow of the developer could be severely impacted. In another common situation, the announcement of an individual's intent to leave Company A and join Company B, if untrue, may have a disastrous effect on relations between the individual and Company A.

I recently had a conversation with the editor of a

Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software.

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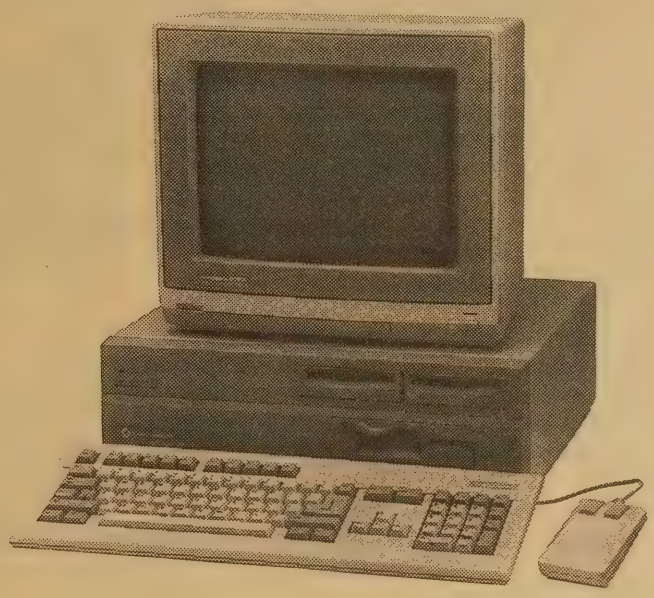

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major Amiga publication that has a regular rumor section. His magazine prints a disclaimer that all of the material in the rumors section is provided strictly for entertainment value, not as news, and that the publication cannot be held accountable for it.

He also states that any attempt to verify any of the content of the rumors column would render that information "not a rumor" and therefore force its exclusion from the column. The magazine has even gone so far as to hide the identity of the author of the column.

This is a delicate area, and finding the border between news and rumor, fact and fiction, information providing and pandering is difficult. The difference between the *New York Times* and the *National Enquirer* is plain to most people, but is there a place for this kind of "entertainment" in computer journalism? How many people ignore the disclaimer and take rumor for fact? After all, where there is smoke there must be fire, they figure. Is it ethical to shield this kind of unsubstantiated gossip behind the flimsy rationale of reader demand or the need to stay competitive?

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If I put into my column comments regarding a particular Amiga magazine, comments that could not be substantiated but that would have a negative effect on the cash flow and public standing of that publication and its editor, and then stated that they were only being published for entertainment value and that I had made no attempt to substantiate them, what would you think of my professionalism? What would you think of my chances in court should I be sued for libel?

I am very interested in hearing your comments on this topic. My personal opinion is that there is a place for rumor in this industry, but reporting rumor requires a scrupulous attempt to weigh the needs of the readers against those of the industry. I further believe that every attempt should be made to substantiate rumors, and that it is a flimsy excuse to say that any attempt to do so renders them no longer rumors. They still have the same value to the readers; in fact, more so now as they deserve greater credence. Anything less is pandering. Just for the record, *Webster's 7th Collegiate Dictionary* defines pandering as "catering to or exploiting the weakness of others." What do you think?

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Ten Rules For Buying An Apple

By Mike Markowitz

In honor of Computer Learning Month (October), I thought it might be appropriate to set down some things I've learned about making an investment in our favorite computer. These rules are aimed primarily at parents considering the purchase of an Apple for school-age children, but they should be of interest to teachers, home-business operators and anyone else who is shopping around, particularly newcomers to personal computing. These are highly personal opinions, and you are free to differ, in print, electronically or by picketing my house.

RULE 1: Don't Buy A II+

The Apple II+ went out of production in 1983. Many show up for sale at seemingly low prices, as owners decide to trade up to newer systems. Don't be fooled by the low price. The II+ is now a very limited system. It is difficult to expand the memory beyond 64K, or to run under ProDOS (Apple's "new" operating system) unless software is specially patched. Compared to today's systems, the II+ has more chips, and tends to run hotter. There is still a third-party market for replacement parts, but it cannot last forever. The keyboard also lacks some very useful special keys.

Exception—Lab Equipment. Every rule has an exception. The II+ is a very good bargain as a piece of lab equipment provided you have the skill to tinker with it. For counting events, monitoring temperature or controlling anything electrical or mechanical, there are plenty of plans, kits and parts available (most user groups have at least one old-timer who can dig the references out of his garage if you ask nicely). For years to come, Apple II+s will be at the heart of many award-winning Science Fair projects. If you need a CP/M system for some reason, an Apple II+ with a CP/M card is also a reasonable option.

RULE 2: Don't Buy A IIc

The cute little Apple IIc was introduced in April, 1984 as an overpriced entry-level computer. With 128K and a built-in disk drive, it can run just about any Apple II software. It has been poorly supported both by Apple and by the third-party market. It is not really portable, since it needs to be plugged into a wall socket, and the flat-panel displays were a bad joke. The upgrade possibilities for the IIc are expensive and limited. For example, there is presently no way to attach a hard disk.

Exception — If you really need something transportable, and you don't mind keeping one monitor at home and another at the office, the IIc might be an option.

You should understand that the nifty, exciting, hot software will increasingly be written for the IIGS and it won't run on earlier Apples.

RULE 3: Don't Buy A IIe

Particularly don't buy an "unenhanced" IIe — you will just have to lug it to a dealer and pay $70 to have it "enhanced" (a matter of swapping some chips or possibly the motherboard). The new "platinum" IIes with numeric keypad are neat, but this is clearly a computer at the end of its life cycle. The Apple IIGS has a much better price/performance ratio.

Exception—If you can get a IIe real cheap, you can count on years of good service from it, but you should understand that the nifty, exciting, hot software will increasingly be written for the IIGS and it won't run on earlier Apples.

RULE 4: Don't Buy At Christmas Or Back-To-School Time

The computer retail business is almost as seasonal as the nectarine market. Prices are highest when demand is highest—far more than half the computers intended for kids are sold in December. The best deals are usually to be found in the dog days of summer and during the frantic January-February inventory clearance.

Exception — Apple prices equipment at the very top of what the market will bear, and then deals out lavish rebates to favored market segments. A good rebate deal can cancel out the seasonal price fluctuations.

RULE 5: Don't Pay Retail (If You Can Help It)

Secondhand is a great way to buy an Apple II. Unlike cars, these machines don't wear out (with the possible exception of some mechanical components in disk drives). Apples are very reliable—if something is going to fail at all, it tends to fail when the system is brand new. You can locate good deals in your local classified ads, through an Apple user group, or any online service with an Apple bulletin board.

Apart from the lower price, buying a pre-owned computer often means you are getting a complete system: all the cables and accessories are there, and everything works with everything else. The seller may be expecting to recoup a large percentage of his original purchase price, so you may need to give him a short lesson in reality testing by offering less.

Another exception — If you're a teacher or school employee you may be eligible for a hefty discount. You have to ask your Apple dealer for details—he won't volunteer the information, and the kid you talk to in the store has only been working there a week and will probably have to ask the boss. Some very large corporations also have employee purchase agreements with Apple, but this may only cover Macintosh hardware, so you have to read the fine print.

RULE 6: Don't Buy A Clone

Two companies made Apple II clones legally. Franklin Computer (Pennsauken, NJ) has gotten out of the market, Video Tech (Hong Kong and Northbrook, IL) is still in it. A variety of illegal Taiwanese Apple II clones managed to slip through US Customs and show up occasionally on the secondhand market. In general, clones are a headache, especially for beginners. There are irritating hardware and software incompatibilities,

Mike Markowitz is a computer engineer for a large Southern California aerospace firm. He has been writing about Apple II computing since 1984. You can reach him on AppleLink (MOUSKOWITZ), The Source (SIG060) or GEnie (M.MARKOWITZ2).

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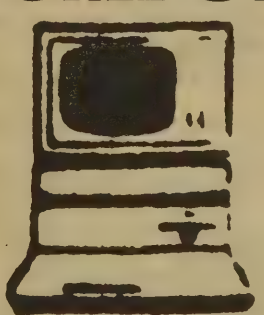

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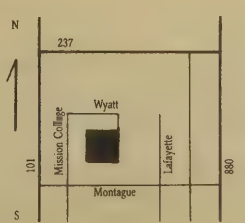

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and you have the demoralizing feeling of being a second-class citizen.

Exception — The Laser 128 EX. This machine (distributed by Central Point Software as well as Video Tech) is the only clone worth considering. It's what Apple should have done to upgrade the IIc. Compatibility is very good — most software thinks the Laser is an enhanced IIe. There is one slot plus internal provision for memory expansion, and a niffy built-in accelerator. Buy it with a 3.5" external drive if you can.

RULE 7: Don't Buy A Daisy Wheel Printer

A lot of beginners make this mistake. They figure a computer is a substitute for an electric typewriter and they want hardcopy that looks just like a typed document. Apart from being slow and horribly noisy, daisy wheel printers can't produce graphic output. Graphic output is one of the best things about owning an Apple, especially for younger users.

With a new ribbon and the right software, the "Near Letter Quality" mode of a good dot matrix printer is perfectly acceptable for term papers or business correspondence. Apple's rather pricey ImageWriter II is a safe choice (almost mandatory if you have a IIGS).

RULE 8: Don't Buy A Computer For A Very Young Child

"Very Young" here is a judgment call. If you have a future Grace Hopper or Alan Turing toddling around the house, no rules apply. In general, however, children under the age of 7 are unlikely to have much fun (or learn much) from an Apple II. The keyboard is too big a barrier.

Exception — There are a few very well-designed "early childhood education" programs for the Apple II. Any computer-using teacher can recommend some favorites. They do not, however, justify the purchase of a home computer for most middle-class family budgets. If you happen to run a pre-school or day care center out of your house, you can probably write off the computer as a business expense.

RULE 9: Don't Buy Bits And Pieces —Get A Complete System

For most beginners, buying a computer is a high-anxiety experience. Don't prolong the agony by purchasing a system one component at a time over an extended period. You need the emotional boost that comes from getting something up and running, right out of the box. You will also probably get a better deal if you buy a complete system, whether you are buying retail or second-hand (see Rule 5, above).

For an Apple IIe, a minimal complete system would include the computer, one disk drive and controller (two drives are much better), monitor, printer and mouse or joystick. For a IIGS, a minimal complete system would include the computer ("CPU"), one disk drive of each kind (3.5" and 5.25"), analog RGB color monitor, and Imagewriter II printer. A cooling fan with built-in surge suppressor is a practical precaution for any system.

RULE 10: Don't Buy A Lot Of Software Right Away

If you don't type, your first investment should be a good typing tutor program. You'll get a lot more out of your computer if you make friends with the keyboard.

You almost certainly want *AppleWorks* (now published by Claris Corporation). It isn't cheap, but it gives you a word processor, spreadsheet and database that all play by the same rules. Don't worry if you don't know what a spreadsheet or a database does. When you need 'em, they'll be there. More and more schools are using *AppleWorks*, and there is a huge industry devoted to *AppleWorks* add-ons and enhancements.

If you aren't well-organized, don't expect miracles from a "personal finance" program. That's probably the largest software category of well-meant impulse purchases that now sit forlornly unused on the shelf.

For young kids, anything under the imprint of the Children's Television Workshop, The Learning Company or Davidson is a safe bet. For older kids, anything with the Broderbund label (except violent games) is a good choice.

If you join a user group, you can get a lot of good public domain software for little more than the price of blank disks. Sometimes the documentation is in a text file right on the disk and all you have to do is print it out. Avoid buying copy-protected software, if possible. It sends a message to publishers. And above all, don't pirate copyrighted software or associate with people who do. □

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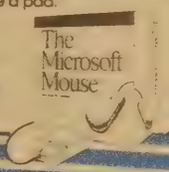

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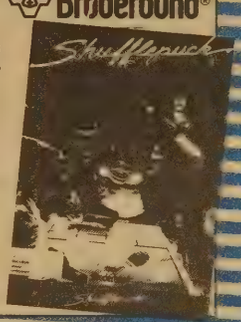

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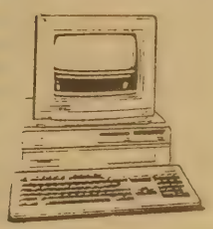

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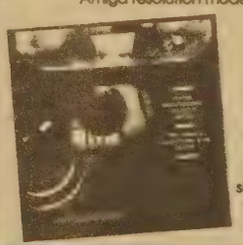

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The SABA Page Reader *continued from page 90*

Hands On

So how does this thing work, anyway? The Page Reader starts just like a photocopier, by imaging as if your page were a photograph. The recognition software then views several letter-sized bites of the "picture," and compares it to all the font styles you've loaded into memory. You can speed up the process by telling the program (at a menu) what font to expect. The program, when it has to choose the font, will do multiple comparisons, and then choose the best fit and process the whole document.

Operation of the software is easy! I've loaded the initial call for the program ("PageReader") into my autoexec.bat so the program will be RAM resident. Then, anytime I need it, I type in "PageReader" and the menus pop up. There are four basic choices and an exit on the first menu. The choices are "Destination," to define where you want the file read to go; "Control," giving document dimensions, contrast and so on for the page to read; "Typestyle" to identify font choice or tell your PC to find one; and "Read," which is self-explanatory.

The "Destination" segment will allow you to send the file to any one of several word processor or graphics program files in their own format or in ASCII. Table II shows the program formats supported by the SABA Page Reader software. I send mine to *WordStar*, and most of the time the resulting file even contains the soft carriage returns needed to realign the paragraphs. It always puts in the dot command for the end of the page. While looking at the "destination" menu, you'll have several other choices, such as:

1. What file name are you going to give your document?

2. What disk do you want it filed on?

3. What subdirectory path do you want to use?

All this works quite well, and when you stack up to five pages face down and top-of-page-in-first on the reader inlet chute, you can exit from the menu and go in to work on another file with *WordStar* or even play a game. (Regrettably, the newest version of the software, while it substantially adds to the number of fonts and formats the Page Reader recognizes, does not offer this background feature.) When the SABA Page Reader is finished, a square shows up in the lower right hand corner of the screen with a beep, giving you the option to go back to the Page Reader menu with an "Alt-S" or continue what you're doing with an "Escape." For documents having more than five pages, I do the former and tell it to read the next batch of pages and go back to what I was doing. For pages that have the printing on both sides, I have done five at a time, flipped them over and rerun them—and used block moves to reorder the page numbers the way they should be. It's a little easier just to do them two pages (p.2 on one sheet and p.3 on the next, and so on) at a time, though.

Performance

So how well does the SABA Page Reader do the job? Well enough for me to have bought one, but it behaves differently in different situations. I'll just tell you what I've observed.

First of all, you will get a true copy of *everything* on that paper, including semicolons for staple holes and periods or commas for dirty Xerox copies. Interpretation of what is copied can be glitchy sometimes, as you'll find an occasional error repeated frequently enough to use global search and replace, without query sometimes and with query others. For instance, in one 12 page document I ran as a demo today, I did global search and replace without query for "E>" to "fo" finding about six in the whole document. I'd seen that particular error in previous documents. The other global search and replace I did with query four times because the "!" was read for "1", "l", "i" and "I" in about six dozen places total. I can understand why that might be, too.

Even so, the thing does 99.9% when it's doing badly and 99.99% on its better tries. We copied that part of a CalTrans report this week—four pages—and found no more than six errors! But the real celebration came on a tabulation in the midst of some technical document—in landscape format rather than portrait (printed sideways, for you spreadsheet users)—which we input landscape mode instead of the portrait mode needed for all the other pages. The SABA not only read it, but it condensed the spacing so it all fit on the screen! Impressive!

There are things the SABA Page Reader can't do. Their literature tells you it won't read printed text—some-

TABLE 1

CHARACTER SYSTEMS RECOGNIZED BY THE SABA PAGE READER

Dot Matrix Typestyles

Epson FX-286,-85,-80
Epson LQ800, 1000, 1500, 2500
Okidata ML 92, 93, 192, 193
Toshiba 321, 341, 351
Toshiba 1340, 1341

Letter Quality Typestyles

Adler Caroll-Elite 76, 76
Adler Herald-Elite 20
Adler Pica-Modern 44
Adler Prisma 51
Brother Brougham 10, 12
Brother Letter Gothic 12
Brother Pica 10
Brother Prestige 12
Canon Courier 10, 12
Canon Laser Printer Courier 10
Canon Letter Gothic 12
Canon Pica 10
Canon Prestige 12
DEC LQP02 WP Letter Gothic
DEC LQP02 WP Courier
DEC LQP02 WP Prestige Elite
DEC LQP02 WP Pica
Diablo 630 Series Courier 10
Diablo 630 Series Letter Gothic 12
Diablo 630 Series Pica 10
FACIT Elite Illustra
FACIT Elite Granada
FACIT Gothic
FACIT Pica Granada
Hewlett-Packard LaserJet Courier 10
IBM Quiet Series Courier 10/72, 12
IBM Selectric Courier
IBM Quiet Series Letter Gothic
IBM Selectric Courier 10/72
IBM Quiet Series Prestige Elite
IBM Selectric Letter Gothic
IBM Selectric Pica
IBM Wheel Series Courier 10/72, 12
IBM Selectric Prestige Elite
IBM Wheel Series Letter Gothic
IBM Wheel Series Pica
IBM Wheel Series Prestige Elite
NEC Spinwriter Courier 12, 72
NEC Spinwriter Letter Gothic 12
NEC Spinwriter New Prestige Elite 12
NEC Spinwriter Pica
NEC Spinwriter Prestige Elite
Olivetti Courier 10, 12
Olivetti Esteem Elite 12
Olivetti Letter Gothic 12
Olivetti Universal Pica 10
Olympia Gothic 10/12
Olympia Pica
Olympia President Pica, Elite
Olympia Prestige Elite
Panasonic Courier 10, 12
Panasonic Letter Gothic 12
Panasonic Prestige 12
Qume Sprint Series Courier
Qume Sprint Series Letter Gothic
Qume Sprint Series Pica
Qume Sprint Series Prestige Elite
Sharp Courier 10, 12
Sharp Letter Gothic 12
Sharp Pica 12
Sharp Prestige Elite 12
Silver Reed Courier 10, 12
Silver Reed Letter Gothic
Silver Reed Prestige Elite
Xerox Courier 10, 12
Xerox Letter Gothic
Xerox Pica
Xerox Prestige Elite/Vintage
Wang Courier 10, 12
Wang Letter Gothic
Wang Prestige Elite

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							VGA		Apple Mac II	1024 x 768 (48 kHz)	1280 x 1024 (64 kHz)
				NTSC	CGA	EGA	Std.	Ext.			
Diamond Scan 14 (AUM1381A)	14/13V	15.7 ~ 36 auto-tracking	0.31	•	•	•	•	•	•		
Diamond Scan 16 L* (HL6605ATK)	16/15V	30 ~ 64 auto-tracking	0.31				•	•	•	•	•
Diamond Scan 20 A (HA3905ADK)	20/19V	15.7 ~ 36 auto-tracking	0.31		•	•	•	•	•		
Diamond Scan 20 L* (HL6905TK)	20/19V	30 ~ 64 auto-tracking	0.31				•	•	•	•	•
XC1429C	14/13V	31.5	0.28				•				
XC1410C	14/13V	22 or 15.75	0.40		•	•					
XC1430C	14/13V	22 or 15.75	0.31		•	•					

*Microprocessor-based digital scan mode control memory

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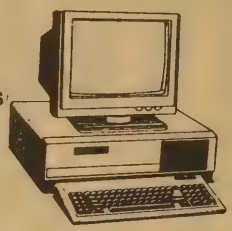

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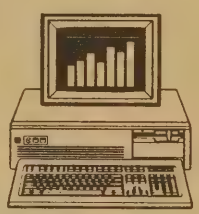
101 KEY KEYBOARD
MONO VIDEO CARD
S, P & G PORTS
AMBER MONITOR



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thing to do with proportional spacing. If the letters are too crowded, say Courier 10 at 12 per inch, their literature says you'll have a problem. And we've already told you, it won't read the C. Itoh Prowriter, either—nor does it claim to. You should see the interpretations of Greek letters you get from mathematical formulas, too—real gibberish.

Updated Software

The most recent software upgrade arrived recently as a new set of disks, with new a documentation manual. The first instruction was to delete all the old directories and files and reinstall version 2, just as we did above. Having done as told, we tried it to find the speed of the reading and conversion to computer file is much faster—one minute per page instead of about five! But now there's the sacrifice of background operation while you word process. Now it runs on-screen, with a little sign up in the left hand corner saying "working". It beeps when it's finished, so you can continue reading more pages, or go on to check the document for errors. Reading into *WordStar 4*, it now puts in the underlines, the double spacing, the page ends, etc.

We again have used it to resurrect old articles to be updated and re-written, and to read in legal documents. It's great to have it reading while opening the mail, doing the phone calls of the day, and filing. The office may get uncluttered, after all. Indeed, it is!

The SABA people have an 800 number for their orders and customer support. We called several times with problems encountered in reading some of the documents we tried. In one instance, we were pointed to some instructions in the documentation we'd ignored or not seen. The most recent call elicited information on the next upgrade to be sent out in a few weeks. Among other things, it will be faster by a good percentage, and it will have the supported fonts extended. One of the more interesting fonts they've added is the set of line printer fonts (the strange characters you see on Time magazine address labels, for instance). Since those tend to be rather small size letters and somewhat faint at times, the ability to read and reprint a document would be a real asset.

If you have lots of type-written text lying about that needs to get on-line, PageReader may work very well for you.

Conclusion

If you have lots of type-written text lying about that needs to get on-line, PageReader may work very well for you. If your copy is reasonably clean, and the text uses one of the fonts in Table 1, you may be surprised at how quickly you can get your material on-line. It might be really handy to lift a paragraph out of that contract someone submitted to you that you want to modify for your negotiations. It is great for reading in that report or draft of an article from someone else, so you can comment directly on the spot where the comment applies. If you have an office with an MS-DOS system in it, you'll find a place for the SABA PageReader to be useful. (SABA Technologies, Inc., 9300 S. W. Gemini Dr., Beaverton, OR 97005, 503/626-7050, 800/654-5274. The Page Reader's suggested retail price is $1399.)

TABLE 2
OUTPUT PROGRAM FORMATS SUPPORTED BY THE SABA PAGE READER

Word Processors	Graphics	Spreadsheets
WordStar 4	PC-Paint	MultiMate
WordPerfect	PC-Paintbrush	ASCIILotus 1-2-3
Microsoft Word		
DisplayWrite 3		
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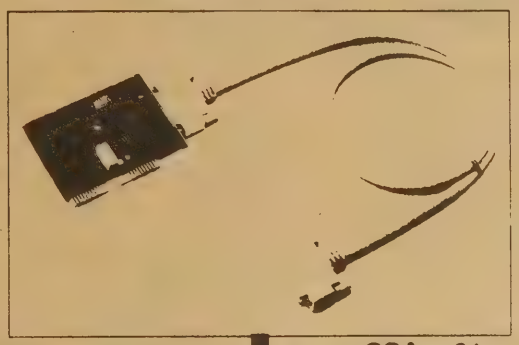

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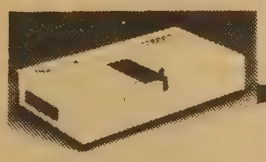
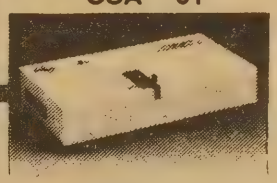


EPP – 01



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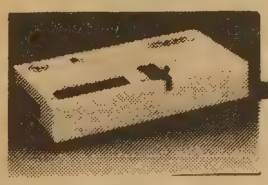
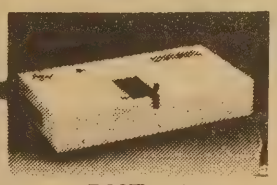


BPP – 01



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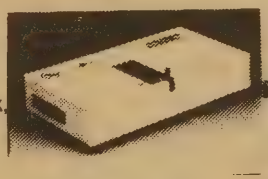
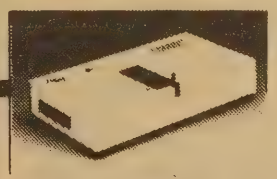


51P – 01



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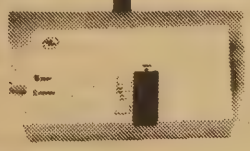

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REVIEWS

101 Macros For Lotus 1-2-3

Published by:
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IBM PC/XT/AT and compatibles
List price: $69.95
Reviewed by: Steve Guttman

101 Macros for Lotus 1-2-3 is not one of those products you can't live without, but it does make life with *Lotus* a little bit easier

101 Macros for Lotus 1-2-3 does indeed contain precisely 101 *Lotus* macros, designed to run with both Release 1A or 2 of *1-2-3*. These macros run the gamut from simple row insertion, and cell formatting macros, to elaborate notepad and biorhythm(?!) macros.

Some of these macros will become indispensable to you, as you find ways of quickly automating those mundane, repetitive keystrokes. For example, the copy-and-stay (leaves the cursor at the location of the newly copied block), the column widening macro and the macros that sum and average a column of numbers have quickly become mainstays of my macro-repertoire. Some other strong contenders are: the switch-places macro (switches the values in two cells or rows), the percent and dollar range-formatting macros and the go-return macro (which lets you "visit" another part of your spreadsheet and return to the cell you started in).

This package will appeal to two general audiences. Macro novices who want to learn more about 1-*2-3*'s powerful macro language will appreciate the down-to-earth style of the manual and the well-organized and understandable presentation of the macros. Macro-aces who are already facile programmers will value the imagination and cleverness that went into their design.

You'll also enjoy the solid advice provided in the manual about designing and implementing macros. This is good stuff—sensible info on understanding macros and suggested conventions that will help make your programming more consistent.

Of course, the real reason for buying a package like this is that it provides a starting place for you to design your own macros. Out of 101, any one person will probably find only 10 or 15 macros that they want to use with any regularity. But for those occasions when you've got to write that weird custom macro to compute 500 biorhythms and store them in a 1-*2-3* database, isn't it nice to know you don't have to start from scratch? (Macropac International,19855 Stevens Creek Blvd., Suite 168, Cupertino, CA 95014, 800/ 624-0077, 408/996-8143 in CA.)

101 Tips, Tricks & Traps For 1-2-3

Published by:
Macropac International
For: IBM PC/XT/AT and compatibles
List price: $69.95
Reviewed by: Steve Guttman

There are lots of books about computer programs, but not too many computer programs about books about computer programs. *101 Tricks, Tips & Traps For Lotus 1-2-3* is one such software offering.

Based on the book of the same name, *101 Tricks...* is a *1-2-3* add-in product designed to provide easy electronic access to the tips in the book. Because it's an add-in, *101 Tricks...* is installed within the *1-2-3* environment, where it provides single-keystroke access to a table of tips. And since it uses *1-2-3*'s add-in manager, *101 Tricks...* will only work with release 2 of *1-2-3*.

When invoked, the program presents you with a screen full of abbreviated tip titles that serves as a table of contents. The cursor keys allow you to highlight a given title, and pressing ENTER displays the first line of the tip at the screen bottom. Hitting ENTER once more replaces the table of contents with the full text of the tip. ESC subsequently returns you to the table. The tips are succinct and generally quite helpful.

The great weakness, and a source of much confusion in this product, is the table of contents screen. It's terribly hard to read—114 tip titles are shown on one screen in a very closely spaced matrix. And many of the titles themselves are quite cryptic.

While the concept of providing online programming assistance is a powerful and useful idea (nicely exploited for traditional programming languages in the Norton Guides and Peabody), the organization of *101 Tips...*leaves something to be desired.

The current organization encourages users to browse through the tips—which can be a helpful and constructive experience. However, it's not clearly better than browsing through a book, which is your other option—the soft-cover version of *101 Tips* . . . at less than half the price. (Macropac International,19855 Stevens Creek Blvd., Suite 168, Cupertino, CA 95014, 800/ 624-0077, 408/996-8143 in CA.)

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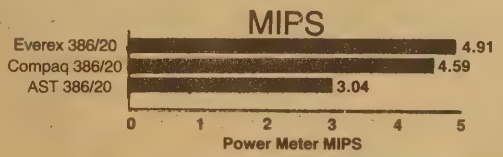

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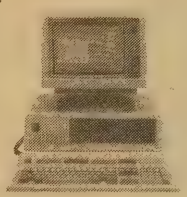

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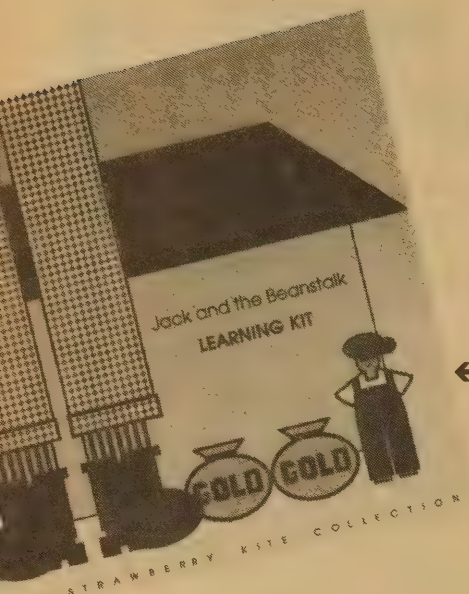

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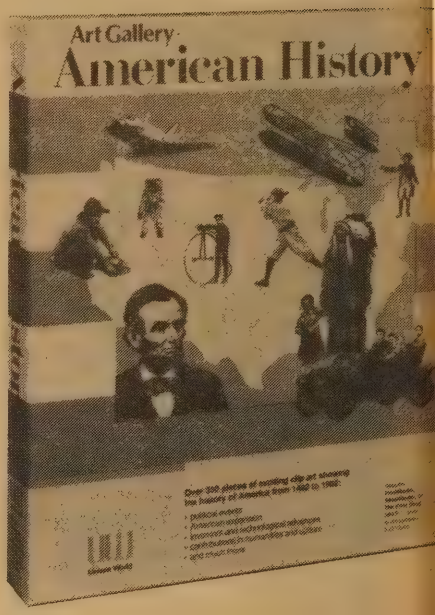

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← Audio Tapes Teach Multimate Word Processing Program

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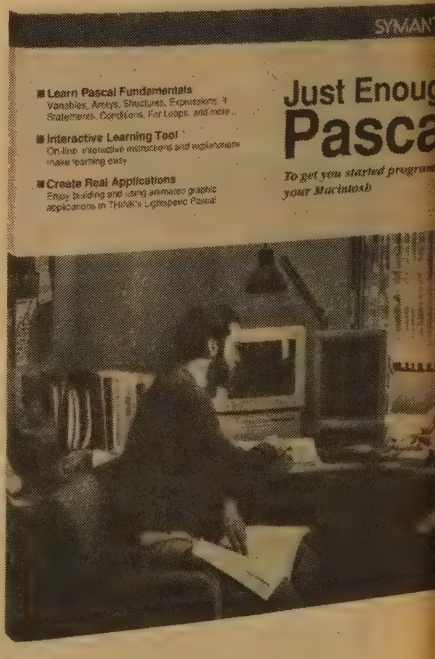
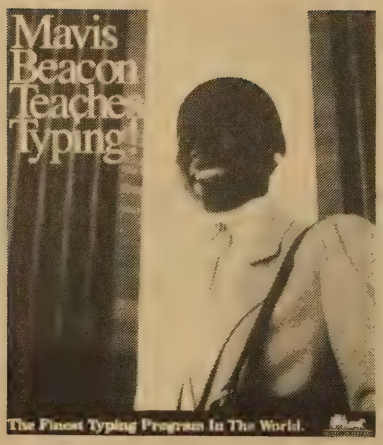


Symantec Introduces Just Enough Pascal For Novice Programmers →

Just Enough Pascal is an interactive learning tool that helps novice programmers learn THINK's *Lightspeed Pascal* for the Macintosh. An interactive, online desk accessory, *Just Enough* teaches the fundamentals of Pascal, Macintosh programming and the *Lightspeed Pascal* environment. Beginners learn at their own pace while building an application in Pascal, complete with menus, windows, icons and more. Main programming concepts like the event loop, event handling, windows and graphics are taught. *Just Enough Pascal* works with any Mac from the Plus up. THINK's *Lightspeed Pascal* 2.0 is required. ($75.00.) Symantec Corporation. 10201 Torre Avenue, Cupertino, CA 95014-2132.



← Mavis Beacon Teaches Typing With AI And Graphics

Anyone interested in learning how to type will like taking lessons from *Mavis Beacon Teaches Typing.* This application using artificial intelligence technology demonstrates perfect finger technique with Guide Hands and includes interesting text like world records and fun facts to practice typing skills. Progress is shown on charts that cover 25 areas. Students may learn both Dvorak and the standard QWERTY keyboards. Versions of *Mavis Beacon* are available for the PC, Apple II, Apple IIGS, Macintosh, Amiga and Atari ST. Software Toolworks. 13557 Ventura Blvd., Sherman Oaks, CA 91423. (818) 967-6789.

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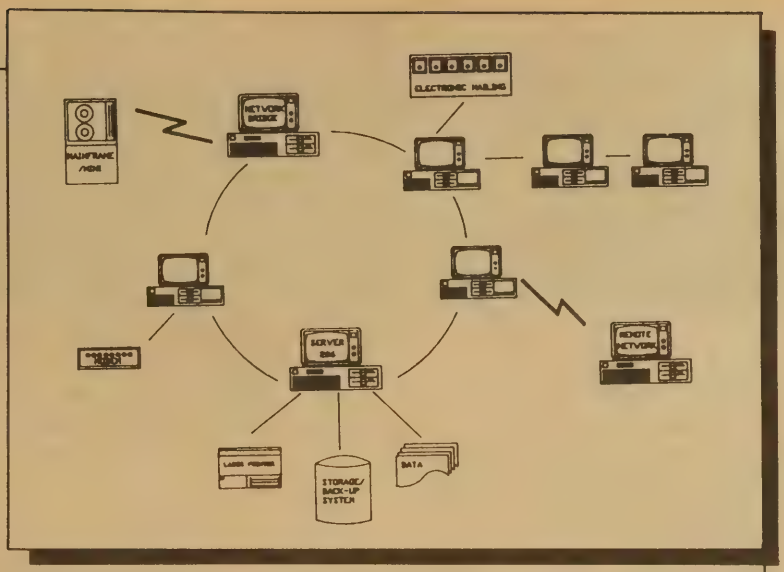

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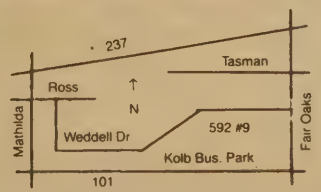

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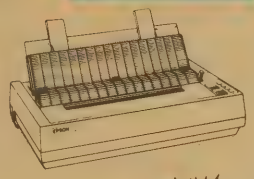

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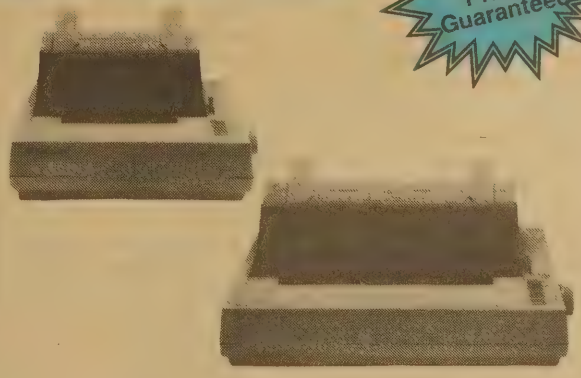

Epson's remarkably quiet LQ-850 and LQ-1050 are fast, 24-pin dot-matrix, letter quality printers ideal for small business and corporate environments. Both print at 264 characters per second (CPS) in the high-speed draft mode and 88 CPS in letter quality mode, at a quiet 55 dB or less noise level. The narrow carriage, 80-column LQ-850 and wide carriage, 136-column LQ-1050 bidirectionally print high-resolution quality in both text and graphics. For versatility and ease of operation, the LQ-850 and LQ-1050 are built with SmartPark™, the paper handling feature which allows changing paper without changing hardware; and SelectType, an illuminated LED, front control panel for selection of resident and optional fonts, pitches and print modes at the touch of a button. There's also a standard 6K internal buffer. And both come with Epson's one year limited warranty.

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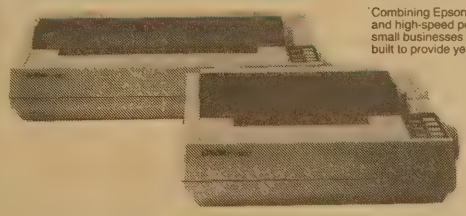

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USER GROUP NETWORK

BY MARY EISENHART

Well, the propaganda mills of the **Silicon Valley Computer Society** have been working overtime this month, with the result that we've been deluged with notices for interesting events from these folks. So we hereby pass the news along to you.

First of all, the not-to-be-missed experience of hearing **Philippe Kahn** can be yours if you attend the SVCS main meeting on September 23. Kahn, as you undoubtedly remember, is the founder and CEO of Borland International, and never fails to have outspoken and controversial comments. *MicroTimes* sez check it out.

The meeting will be held at 7 pm on September 23, in the Oak Room of the Hewlett-Packard Building 48 on Wolfe Road. The meeting is free to SVCS members and $5 for non-members, and if you'd like more info, feel free to call *Jon Kennedy* at (408)226-0507.

Meanwhile, the **SVCS Artificial Intelligence Special Interest Group**'s September meeting is featuring a presentation by **Professor David Rumelhart** of Stanford on Neural Networks. Professor Rumelhart is one of the leading experts in the field of neural networks, so this should be an outstanding opportunity to learn more about this subject. The meeting is September 12 on the Stanford campus, and if you'd like more information, the person to call is **Rita Zokaei** at (415)574-8225.

Not to be outdone, the **Women's SIG** of SVCS will be meeting on September 26 to hear **Donna August**, director of operations for Intellicorp, address the topic "Managing Your Technical Staff." The meeting's at 7:30 pm at Hewlett-Packard, 5301 Stevens Creek Blvd., Santa Clara. Rita Zokaei is the person to call for more info on this one, too.

Also much in evidence this month are UNIX-related announcements. **David Harris** of the **PC-UNIX SIG** would like to point out that the group has changed its meeting day to the first Wednesday of the month; the location remains the AT&T Training Center, 1090 E. Duane Avenue, Sunnyvale, and the time is still 7 pm. This group helps beginners and experts pool their knowledge about the various types of UNIX running on Intel-based PCs. Dan **Kionka** and **Mark Dill** are the people to contact for more info—you can reach Dan at (408)432-1300 and Mark at (408)995-3966.

An increasingly valuable resource is the **Bay Area AT&T PC Users Group**, which supports users of AT&T 6300s, whether running DOS or UNIX. The group now has a newsletter which is full of useful information, including extensive listings of other resources. There's a North Bay section and a Silicon Valley section, both of which meet monthly. Call **Joe Mahoney** at (415)540-2219 for information on the North Bay section, of which he is president, and **Joe Lipsig** at (408)522-4114 if you're interested in the Silicon Valley section. Joe L. is the president there.

And finally, even if you can't tell **chmod** from **nroff**, **Dennis McNamara** invites you to call his BBS **/usr/school**, which operates 24 hours a day at (415)751-0898 and, according to Dennis, likes 7-E-1 parameters best. It's a general interest UNIX and C language board, and wizardliness is not a prerequisite.

Moving from the world of UNIX, we find ourselves in the realm of the orphaned TI 99/4A users, who are persistently continuing to use and enhance their machines in the face of much indifference from Texas Instruments. **Doug Moore** of the **LA 99er Computer Group** tells us that the group will be holding meetings on September 28 and October 26 at the Torrance Public Library, Torrance Blvd. at Madrona, at 7:15 pm. If you'd like more information, call our old friend and charter user group lister **Terrie Masters** at (213)271-6930.

In the north, meanwhile, the **San Francisco 99ers** meet, paradoxically enough, in Oakland, at 3751 Elston Avenue, on the third Saturday of the month. Call **Fred Layton** at (415)530-8335 for further specifics.

B.B. Jarvis of Pleasanton sends word, meanwhile, that there's a new **PC-Clone** club in the East Bay. The first meeting will be held on October 7 at Cal State Hayward, Room 2078, Meiklejohn Hall, at 8 pm. The group offers the expertise of veteran PC users and the resources of a large public domain software library.

The unusual part of this story is that this group is the latest incarnation of the **TRS-Nybblers**, which now also supports MS-DOS. All PC clone users are welcome, and you're invited to call (415)538-2449 or (415)846-3575.

If Prolog is your language of choice, you'll be glad to know that there's a new group called **The Prolog Forum**. The Forum meets on the second Thursday of each month at 7 pm, and offers an opportunity for vendors of Prolog-based products to present their products and for Prolog users to interact and shape the course of the language's development. If you'd like to know more about this, call **Mark** or **Jacqueline Epperson** at (415)657-4075; email can go to **mark_allan_epperson@cup.portal.com** and US mail should be directed to Prolog forum, P.O. Box 3826, Redwood City, CA 94064.

Martin Tracy of the **LA Real-Time Problem Solvers** invites you to come visit his group, which meets from 10 am to 1 pm on fourth Saturdays at the Hawthorne Public Library, 12700 South Greviellea Avenue in Hawthorne. He also gets the editorial-grin-of-the-month award for his description of the group: "We speak A/D, SBC, RISC, ASM, Forth and C. We support real-time real-world hardware and software problem solving, such as firmware, device drivers, instrumentation, and very smart toasters."

So if your toaster needs a brain transplant, or if you have some other real-time technical difficulty, give Martin a call at (213)371-0589.

Another useful resource in the LA area is the **On The Waterfront BBS**. **Bill Byrd** runs this board, which features conferences on programming, *Clipper*, *dBASE*, C, *Lotus* and other delights. The board runs 24 hours a day at (213)306-2581 at 300/1200/2400 baud, 8-N-1.

As you may have noticed from reading this and other publications from time to time, operating a BBS these days is often a legally complex situation. This being so, sysops and prospective sysops might want to check out a new book *SYSLAW: A Legal Guide For Sysops*, by **Jonathan Wallace** and **Rees Morrison**. Both authors are lawyers and long-time BBS operators; they promise that the book is written in clear English, however, and explains the legal rights and obligations of sysops. The hundred-page *SYSLAW* deals with such sticky problems as what to do if somebody posts copyrighted material on your board, the legal implications of those lovable Trojan Horse programs, whether you can bar someone from your BBS, and what happens if you delete a message by accident.

The book is available for $19 plus $2 postage and handling from LLM Press, 150 Broadway, Suite 610, New York, NY 10038. The authors also operate the **Lawyers Linked by Modem BBS** in New York at (212)766-3788.

Enough for this month. Keep the correspondence coming, by email to **microx** on The WELL (415/332-6106) or by US mail to User Group Network, 5951 Canning Street, Oakland, CA 94609.

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203

Terrapin Station. (203) 656-0134. Grateful Dead Board. Sysop: Klaus and Gretchen Bender.

209

Bertha Board BBS.(209), 239-9853, 300/1200/2400, 8-N-1, 24 hrs. MS-DOS, others. 95 Mb online. Emphasis on programming. Uploads and downloads. No fee but registration required. Sysop: Kenneth Roach.

Oasis Software Library.(209), 823-2803, 300/1200/2400, 8-N-1, 24 hrs. Shareware and PD for IBMs and compatibles. No fee but registration required. Sysop: Tim Campi.

Silicon Realms. (209) 754-5530. 300/(1200 Soon) 9:30AM to 6:30AM.Formerly Motherload 64. Commodore, PET & Plus/4. Programmers board, Continuing & Short Story boards, FRPG. Sysop: Joe Commodore

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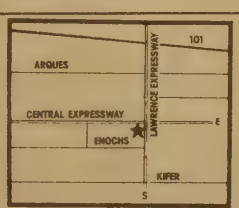

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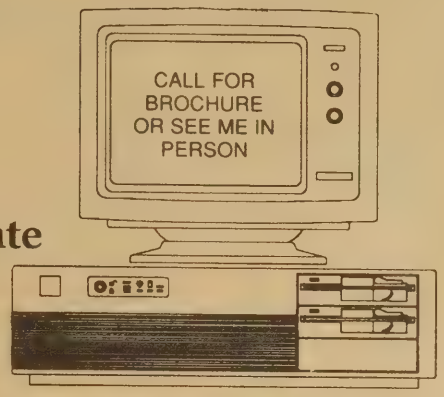

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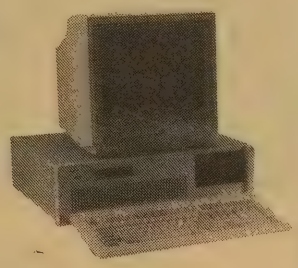

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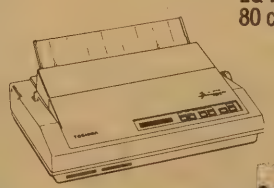

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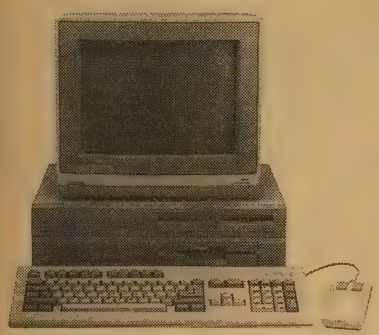

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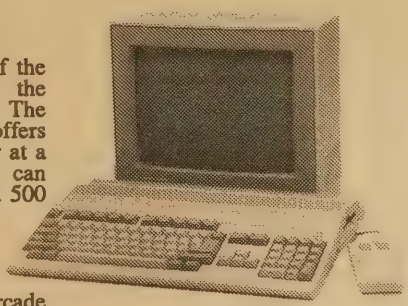

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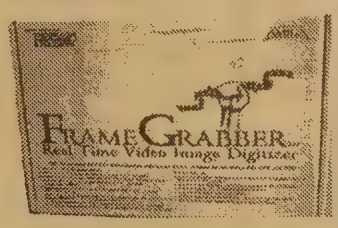

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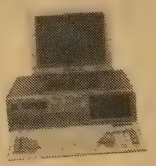

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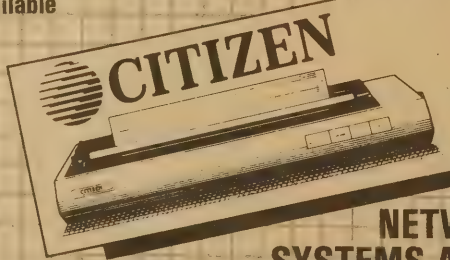

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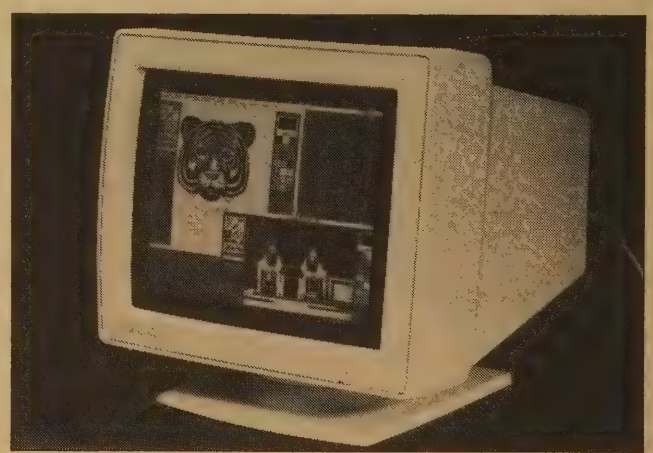

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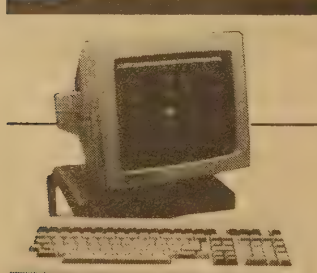

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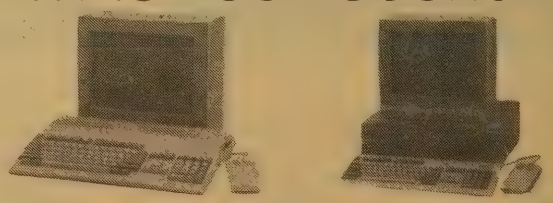

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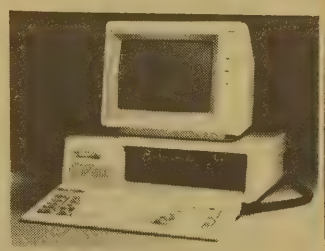

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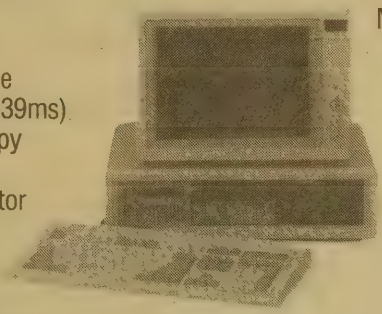

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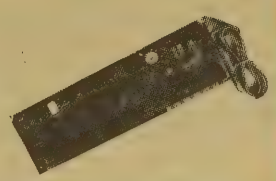

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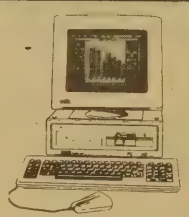

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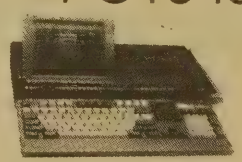

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North Bay Users Group (NBUG). Meetings: 2nd Thurs. 7:30-10 PM 201 Maine St., Vallejo, CA. Family Computer Club dedicated to all forms of computing.Determine market opportunities, group research projects. (415) 564-6669.

Nota Bene User Group. Meetings: 3rd Tues. or Thurs., 7:30 PM Berkeley or Peninsula. For location and date, call Thomas Ross, (415) 845-2410.

PC Publishers Of Northern California. Meetings: 2nd Thursdays, 7 PM, 1415 Valencia St., San Francisco Newsletter, telephone hotline, reference library, education. Support Ventura, PC PageMaker, etc. Intro membership: $15/yr.

PC Publishers of San Francisco. Desktop Publishing. Ventura, PC Pagemaker & others. Call (415) 661-9270.

Professional Association Of Secretarial Services (PASS). Meetings: 2nd Sat. Oakland. Group for self-employed word processors. Contact Nina Feldman (415) 655-4296.

Prolog Forum. Meetings: Monthly, 2nd Thursday 7:00 PM, Belmont and various locations. Prolog Forum is a group dedicated to supporting users of the Prolog computer language in artificial intelligence. Call Mark A. Epperson at (415) 594-9981.

ProTel (Professionals In Telecommunications) Meetings: Monthly. Holiday Inn, 1221 Chess Drive, Foster City. ProTel is a network organization for people interested in telecommunications.Leave a message at (415) 227-5637 for information.

SEF Marketing SIG. Meeting: Thurs. Sept. 22 7 pm, Teknowledge, 1850 Embarcadero, Palo Alto. Call: Don Morrison, (415) 859-1043.

SEF OOP SIG. Meeting: Tues. Sept. 20, 7 pm, Parc Place Systems, 2400 Geng Rd., Palo Alto. Call: Dean Ritz, (415) 859-1043.

SF Robotics Society. Meetings: 2nd Mon. Homestead Savings, Community Hall, 5757 Geary (at 22nd), SF. Guest speaker, developers' roundtable.

Silicon Valley Computer Society. Contact Kent Stafford (408) 286-2969. Or write to 2464 El Camino Real #190, Santa Clara, CA 95051.

Software Entrepreneur's Forum (SEF). Meetings: 3rd Thurs. 1875 Embarcadero Rd., Palo Alto. Helps individual software developers and startup software companies. Call for complimentary newsletter. (415) 854-7219.

The Society For Technical Communication. Meetings: 1st Wed. 7:00 PM Room #3, SMUD Facilities, corner of Elkhorn and Don Julio, Sacramento. Devoted to the advancement of the theory and practice of technical communication.

Valley of the Moon Users Group. Meetings: 2nd Saturdays monthly, 10:00 AM, Moose Lodge, Sonoma. All systems welcome. BBS, 300 BAUD, 24 hours, (707) 996-7922.

Women's Special Interest Group. Meeting: Sept. 26 ,7:30 pm, Hewlett-Packard, 5301 Stevens Creek Blvd., Santa Clara. For all women interested in computing. Donna August will speek on "Managing Your Technical Staff, As A Woman Manager." Call: Rita Zokaei, (415) 574-8225

USER GROUPS

AMIGA

ACCESS (The Amiga And Commodore Computer Enthusiasts Society). Meetings: 3rd Tues. 7:30 PM Community Room of Homestead Savings & Loan, 999 E. Stanley Blvd., Livermore, CA. Contact Ron Kremkow at (415) 449-1784.

Amiga Addicts Anonymous. Meetings: Newsletter, public domain library, demonstrations. Write PO 4669, Walnut Creek, CA 94596. Call: 689-3453

Amiga East Bay Info Exchange (AEBIE). Meetings: 2nd Tues. 7 to 9 PM 11185 San Pablo Ave., in El Cerrito. Write to P.O. Box 485, Pinole, CA 94564.

ASCITEC: The Amiga Science & Technology Users Group. Meetings: 2nd Thurs. 5-7 PM Lockheed, B/157, Rm. 4-C, Sunnyvale, CA. Scientific/Video Applications. Classes available.

AUGment - Amiga Users Group of Silicon Valley. Meetings: 2nd Fri. Write to P.O. Box 1863, Fremont CA 94538 for more info.

Bay Area Amiga Developers Group (BADGE). Meetings: 3rd Thurs. 8 PM Turing Auditorium, Stanford University, Stanford, CA. For all Amiga programmers. No membership fee.

CWEST Bay Area Commodre Users Group. Meetings: Third Thursdays, 7:00 PM, Embarcadero YMCA, between Mission & Howard. Support C-64/128 and Amiga. New Users welcome. Write PO 146731, San Francisco, CA 94114-6731.

Northern California Amiga Club. Meetings: 2nd. Sat. 1:30 PM Business Incubator, 4311 Airport Rd., Redding, CA. $15/yr., monthly newsletter, access to PD disk library, SIG's & support.

SMAUG (Salinas-Monterey Amiga Users Group). Meetings: 3rd Tues. at 7 PM, Seaside Library, 550 Harcourt Ave., Seaside, CA. Write PO 776, Castroville, CA 95012 for call Richard Binsacca at (408) 678-2518.

SVAUG-Scotts Valley Amiga Users Group. Meetings: 2nd Thursday, 7:00 PM. The Computer Room, Kings Village, Scotts Valley.

Vallejo AMiga People (VAMP). Meetings: 2nd Tues. 6:30 PM

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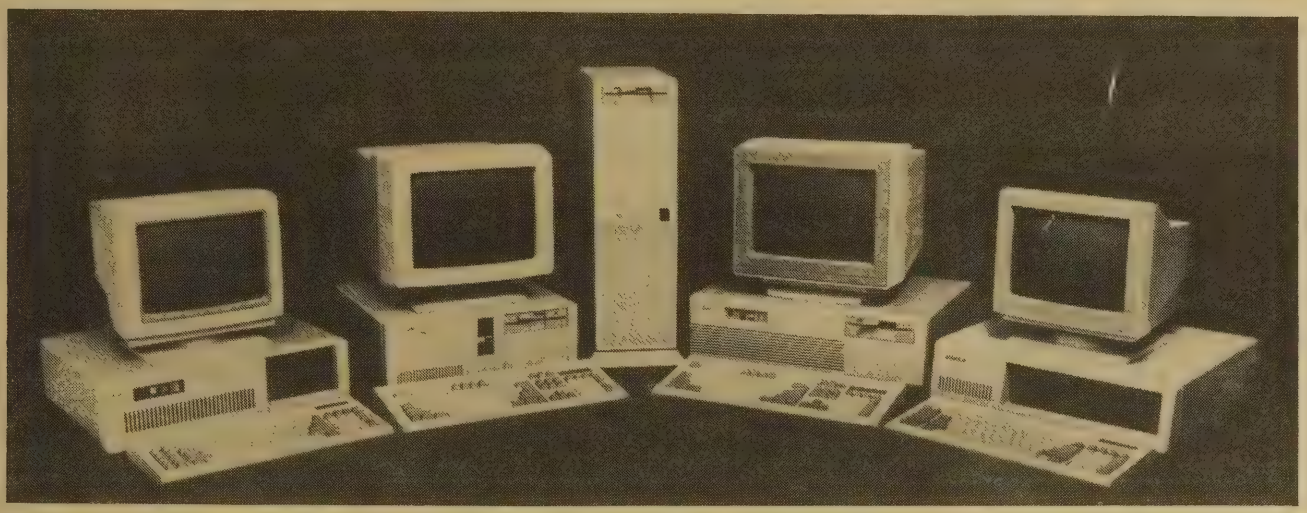

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Software 1st, Vallejo Corners Shopping Center. Contact Bill Braun at (707) 554-0263.

AMSTRAD

North American Amstrad Users Group (NAAUG). National User group. For info send S.A.S.E. to NAAUG, P.O. Box 2178, Ferndale, WA 98240.

APL

APL Bay Area Users' Group. Meetings: 2nd Monday, 6:30 PM, I.P. Associates, 425 Sherman Ave., Suite 200, Palo Alto.

APPLE

A.P.P.L.E. Co-op. Meetings: National User Group. Call-A.P.P.L.E. Magazine. Write: 290 S.W. 43rd Street, Renton, WA 98055. Or call (206) 251-5222 for more info.

Apple Pickers of the Redwood Empire. Meetings: 2nd Sat. 10 AM Santa Rosa JC, Shuhaw Hall, Rm. 1735. Call for sample newsletter. (707) 763-8322.

B.E.A.R. Apple II National Users Group. Meetings: send S.A.S.E. to B.E.A.R., 4719 Meridean Ave. #401,San Jose 95118. Printshop & Appleworks files, monthly newsletter.

Diablo Valley Apple Users. Meetings: 1st & 3rd Fri. 7 PM Willow Creek Ctr., 1026 Mohr Lane. Concord, CA. SIG's meet monthly. Featuring library of pub. domain software & club's DOM's. Newsletter, demos, group buys hard/software.

GravenStein Apple IIGS Users Group. Meetings: 3rd Saturdays, 10:00 AM, Coddingtown Mall, Santa Rosa. User group to explore new and existing programs and uses for the IIGS, to order equipment and material as a group for quantity discounts and to encourage the use and development of the IIGS among current, new and potential users. Call: Aaron Lamar, president, 938-8479.

San Leandro Apple User Group. Meetings: 1st Thursdays, San Leandro HS, Rm. 213. New owners to experienced users welcome. AppleWorks, software and telecommunications SIGs meet monthly. Call: (415) 483-6046.

The Apple Core. Meetings: 3rd. Saturdays. Daly City Library, Serramonte Branch. Call: 771-5830.

Tri Valley Apple II Users Group. Meetings: 1st Thurs. 6:30 PM. Call Esther Farnstrom at (415) 829-3672 or Dan Balsey at (415) 828-6237 for meeting location.

ATARI

Bay Area Atari Users Group (BAAUG). Meetings: 1st Mon. 7:00 PM Bracher School, corner of Bowers and Chromite, Santa Clara. ST users meet at Bracher on 2nd Tuesdays. 8-bit users meet at H-P, Wolf and Pruneridge, Cupertino. BBS: (408) 247-1257.

AT&T

Bay Area AT&T PC Users Group - South Bay. Meetings: 2nd Wed. 6:30 PM AT&T Bldg., 1090 E. Duane, Sunnyvale, CA. Call: Joe Lipsig (408) 733-6522. BBS: (408) 462-6329.

Bay Area AT&T PC Users Group. Meetings: 1st Wed. 6:30 PM Alternates between Oak. & SF, Call: Joe Mahoney (415) 586-8376. BBS: (415) 829-6027.

AUTOCAD

San Francisco/Marin AutoCAD Users Group. Meetings: 2nd Tuesday evenings. $20 annual membership fee & newsletter. For further info, call Volker, 331-9466, or Virginia 777-4025.

Sonoma County AutoCAD Users Group. Call (415) 777-9144 for info.

COMMODORE

ACCESS (The Amiga And Commodore Computer Enthusiasts Society). Meetings: 3rd Tues. 7:30 PM Community Room of Homestead Savings & Loan, 999 E. Stanley Blvd., Livermore, CA. Contact Ron Kremkow at (415) 449-1784.

Campbell Chapter of 64/More Commodore UG. Meetings: 4th Tues. BBS (408) 946-6154.

Commodore 64 Software Users Group For New Commodore Owners. One-on-one help for new owners. Meeting place & time TBA by members. Call (714) 531-2977 for info.

Commodore Connection Users Group. BBS (415) 458-1005.

Cupertino Chapter of 64/More Commodore UG. Meetings: 3rd. Sat.BBS (408) 946-6154.

CWEST Bay Area Commodore User Group. Meetings: 3rd Thurs. Embarcadero YMCA, between Mission and Howard. Supports C-64/128, Amiga. Write P.O. Box 146731, San Francisco, CA 94114-6731.

F.U.N.H.U.G. - Fremont, Union City, Newark, Hayward User Group. Meetings: 3rd Thurs. 7:30 PM Newark Public Library, 6300 Civic Terrace Ave., Newark, CA. A user-organized, user-operated user group not affiliated with any computer or software manufacturer or distributer.

Fairfield Commodore User Group. Meetings: 1st & 3rd Mon. Solano County Education Bldg. Write to P.O. Box 2778, Fairfield, CA 94533-9998 for info.

Mother Lode Commodore Users Group. Meetings: 2nd & 3rd Thursdays, 7:00 PM, Calaveras County Water District Board Room. Supports the Commodore PET, VIC, 64, Plus/4 C-16 & 128. Call: Larry Anderson, 754-5530.

North Valley Chapter of 64/More Commodore UG. Meetings: 2nd. Sat. BBS (408) 946-6154.

PLUG (The Plus/4 Users Group). No regular meetings. Over 800 members internationally. Write to P.O. Box 1001, Monterey, CA 93942 for info.

San Jose Chapter of 64/More Commodore UG. Meetings: 1st. Sun. BBS (408) 946-6154.

Silicon Valley Commodore Club. Meetings: 4th Wed. 7 PM Hewlett-Packard, 5301 Stevens Creek at Lawrence & 280. C-64, C-128, & Amiga.

dBASE

dBASE Users Group of Marin & Northbay. Meetings: monthly, call (415) 488-0342 for info. Open membership, beginners through developers.

DATAEASE

Bay Area DataEase Users Group. Meetings alternate between San Francisco and Palo Alto. Contact Kermit Carter at (415) 945-7817 for info.

DYNABYTE

Dynabyte - Tahoe City Dynabyte Users Group. Swap, buy/sell - boards, parts, units. Write to Drawer 2629, Olympic Valley, CA 95730 for info.

EAGLE

Eagle Computer Users Group. Meetings: 2nd Sat. 9:30-12 noon Tandem Computer H.R. Training Rm., N. Tantau Ave., Cupertino.

EASYTRIEVE

Easytrieve Plus Users Group. Next meeting: June 14, Hyatt Oakland. Call Debbie at Pansophic, (415) 573-7100. All users welcome.

EPSON

Epson Users of San Francisco Bay Area. Meetings: 1st Thurs. 7-10 PM Fort Mason, Bldg. C, Rm. 216, San Francisco, CA. For users of Epson (QX, Equity, PX-8). Presentations, support network, newsletter, public domain software.

FIRST PUBLISHER

First Publisher User Group. Members make up 8 1/2 x11 formats for newsletters & tip sheets. $35 annual membership. Contact Raul Ibanez (415) 550-0785.

FORTH

Forth Interest Group of Silicon Valley. Meetings: 4th Sat. 1 PM Oak Room, at Hewlett Packard, on Pruneridge in Cupertino. Call George Shaw at (415) 276-5953 for info.

Forth Interest Group, North Bay Chapter. Meetings: 2nd Sat. 1 to 5 PM South Berkeley Community Library, corner of Russell and Martin Luther King Junior Way. One block north of Ashby BART station. Contact George Shaw (415) 276-5953.

FOXBASE+

FoxBase+ User Group. PO 20607 Oakland, CA 94620. New group now forming. Call Rachel Cohen, (415) 465-3570.

GAVILAN

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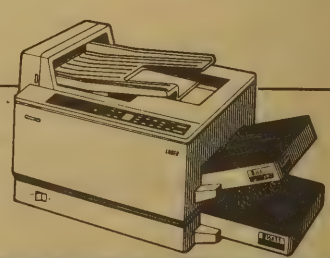

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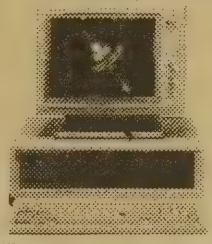

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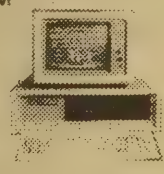

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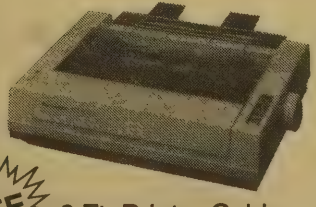

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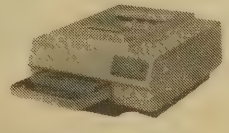

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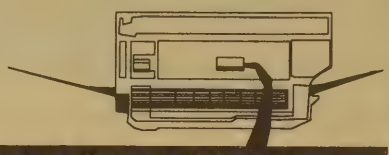

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Beginners SIG/SFPCUG. Meetings:3rd Mondays, after 8 pm, Gen. Mtg., Rm. 1, Bldg. A, Fort Mason Center, SF. Call: (415) 211-9166.

C Language SIG/SFPCUG. Meetings: 2nd. Mondays, 7 pm, Kam's Rest., 2068 Center St., Berkeley. Call: Dan Baumbach, (415) 457-0729.

Clipper SIG/SFPCUG. Meetings: 4th Mondays, 7 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: Michael Palladino, (415) 751-2719.

Columbia SIG/SFPCUG. Meetings: 3rd Mondays, 7 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: Dennis Tye, (415) 566-0587.

CUE Club. MS-DOS machines. SIGs for other computers. BBS:(209) 239-9853. For more info call (209) 858-4401.

DataPerfect SIG/SFPCUG. Meetings: 2nd Mondays, 7 pm, Kam's Restaurant, 2068 Center St., Berkeley. Call: Christy Quinn (415) 644-1855.

dBase SIG/SFPCUG. Meetings: 3rd Thursdays, 7:30 pm, 6 No. San Pedro Rd., San Rafael. Call: John Stephenson, (415) 488-0342.

Desktop Publishing SIG/SFPCUG. Meetings: 4th Tuesdays, 7:30 pm, 179 Parnassus Ave., SF. Call: Phil Smith, (415) 566-3648.

Diablo Valley CUG. Meetings: 2nd Thurs. 7:30 1331 Concord Ave. For info write: Box 27155, Concord, CA 94527. Or call (415) 932-2413.

Diablo Valley PC Users Group. Meetings: Walnut Creek, CA. Write: P.O. Box 8040, #117, Walnut Creek, CA 94596.

East Bay Fog. Meetings: Monthly meetings, Apostleship of the Sea, 600 Terminal St., Oakland. Newsletter, BBS. Call (415) 272-9099 for more info.

Enable SIG/SFPCUG. Meetings: 2nd Wednesdays, 7:30 pm, Walnut Creek. Call: Sandi Baker, (415) 946-1716.

Financial SW SIG/SFPCUG. Meetings: 3rd Mondays, 7 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: Nick Maffei, (415) 668-2456.

IBM & Compatibles Users Group (ICUG). Meetings: A mail-based user group with possible meetings. Not for PCjrs. $8/yr. Write: Dan Tuma, 30 Arjang Ct., Alamo, CA 94507-2041.

IBM Compatible Users Group. Meetings: monthly, call (415) 969-6916 for info 7-10 PM.

Kay+Fun Peninsula Computer Club. Meetings: 2nd Thursdays, 7:30 PM. Social Room, 222 Laurel St., San Carlos. CP/M + DOS library. BBS: (415) 572-8219.wCall: 593-9981.

Lotus SIG/SFPCUG. Meetings: 3rd Mondays, 7 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: Jerry Stern, (415) 282-4100.

Marin-Sonoma PC Users Group (MSPCUG). IBM PC software & talk, business application oriented, official electronic voice of one of most influential groups. Call (415) 927-1216.

Mid-Peninsula IBM-Club. For IBM employees only. Call Scott Maiden for info: (415) 855-4509.

Modula-2 SIG/SFPCUG. Meetings: 3rd Thursdays, 7:30 pm, Call: Richard Lesnick, (415) 398-3587.

NewViews SIG/SFPCUG. Meetings: 4th Mondays, 7 pm, 179 Parnassus Ave., SF. Call: G. Watson, (415) 398-3587.

Paradox SIG/SFPCUG. Meetings: 4th Wednesdays. Call: Allen Greenkey. (415) 621-8478.

PC UNIX SIG. Meetings: 1st Wednesdays, 7 pm, AT&T Training Center, 1090 E. Duane Ave., Sunnyvale. Learn more about such UNIX versions as Microport, XENIX and Minix. Starting a library of public domain source code. Call: Dan Kionka, (408) 432-1300.

Sacramento PC User Group. Meetings: For information call

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San Francisco PC Users Group. Meetings: 3rd Monday 8-10 PM, Rm. 1, Bldg. A, Fort Mason Center. Lectures, demos and software sales. New users welcome. Call (415) 221-9166 for recorded info.

San Francisco PC Users Group. Meetings: 3rd Mondays, 8 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: (415) 221-9166. BBS: (415) 621-2609.

San Francisco PC Users Group. Monthly meetings, "Blue Notes" magazine BBS (415) 621-2609.

San Francisco PCjr Users Group (SFPCjrUG). Meetings: First Sundays. 7:30 PM, Homestead Savings, 22nd Ave./ Geary, San Francisco. Demonstrations and discussions, club library, disks for sale. Call: John King, 472-7035

Santa Cruz Computer Society. Meetings: 3rd Thursdays. 7 PM, Santa Cruz County Office of Education, 809 Bay Avenue, Suite H, Capitola. Call: 479-1180.

Silicon Valley Computer Society. Meetings: 4th Wed. 7:30 PM Oak Room, at Hewlett Packard, on Pruneridge in Cupertino. Call Kent Stafford for info at (408) 286-2969.

Silicon Valley FOG. Meetings: 3rd. Wed. 7:30 PM Saratoga Community Library, 13650 Saratoga Ave.

Solano Community PC Users Group. Meetings: 3rd Monday, 7 PM, Fairfield High School.

Solomon User Group Of Silicon Valley. Meetings: Wednesday, August 10, 6:30 PM, Conveyor And Storage Dynamics, 2581 Leghorn St., Mt. View. Call Grihalva Associates, 39899 Balentine Dr., Suite 175, Newark, CA 94560; (415) 659-1515.

South Bay AT&T PC UG. Meetings: Call for info. Call (408) 226-0116

South Bay Users Group. Meetings: 2nd Tues. 7:15 Saratoga Library, 13650 Saratoga Ave., STG.

South Bay WordPefect User Group. Meetings: 2nd Thurs. 7 PM Centennial Hall Conven. Ctr., 22292 Foothill Blvd., Hayward, CA. We offer public domain disks, speakers, newsletter.

South County PC Users Group. Meetings: Round Table Pizza Restaurant, 22457 Foothill Blvd., Hayward. Call: R.A.McCloud, (415) 537-9899.

Teachers SIG/SFPCUG. Meetings: 3rd Mondays, 7:30 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: Margaret Gwathmey, (415) 982-4221.

TRS Nybblers. Meetings: 2nd Friday, 8 PM, Chabot College, 2555 Hesperian Blvd., Rm. 600, Hayward. MS/DOS, CP/M, laptops, CoCo's, Mod 1, 3, 4; Mod 2, 12, 16, 6000. PD software education modules, problem solving committee.

Valley Computer Club IBM PC Users Group. Meetings: 3rd Wed. 6 PM Xerox Bldg. 475 Oakmead Pky, Sunnyvale, CA. $24/yr member. Monthly VPUG News, access rights to VPUG-SIG Advice on desktop pub. techniques, new products, bugs, etc.

WordPerfect SIG/SFPCUG. Meetings: 3rd Mondays, 7 pm, Rm. 287, Bldg. C, Fort Mason Center, SF. Call: Debbie Foster, (415) 285-4534.

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Kay+Fun Peninsula Computer Club. Meetings: 7:30 PM, Social Room, 222 Laurel St., San Carlos. CP/M + DOS library. BBS: (415) 572-8219. Call: 593-9981.

San Francisco Computer Society. Meetings: 1st Monday, 7:00 PM, Homestead S&L, 5757 Geary Blvd., San Francisco CP\M and DOS machines. No BBS. Call Ralph Gallagher, (415) 929-0252 for information.

MACINTOSH

Berkeley Macintosh User Group (BMUG). Meetings: every Thurs. 6 PM Physical Sciences Lecture Hall, UC Berkeley Campus. SIG meetings on Mondays, Tuesdays & Wednesdays. Call for this week's topic. (415) 849-9114. BMUG, 1442A Walnut St., #62, Berkeley, CA 94709.

Christian Macintosh User Group, San Francisco Chapter. Meetings: 2nd Thurs. San Francisco. Newsletter and support available. Contact Rick Thrasher at (408) 437-1913. Bible Study and DTP SIGS.

Christian Macintosh User Group, Silicon Valley Chapter. Meetings: 1st Thurs. San Jose. Newsletter and support available. Contact Rick Thrasher at (408) 437-1913.

Diablo Valley Apple Users. Meetings: 1st & 3rd Fri. 7 PM Willow Creek Ctr., 1026 Mohr Lane, Concord, CA. SIG's meet monthly. Featuring library of pub. domain software & club's DOM's. Newsletter, demos, group buys hard/software.

East Bay Macintosh Users Group (EBMUG). Meetings: 3rd Tues. West Berkeley Library, 1125 University Ave., Berkeley. Members recieve free PD software. Bring blank disk. Write: P.O Box 7816 Berkeley, CA 94707-0816.

Mac Diablo Users Group (MDUG). Meetings: 3rd Tues., Community Room, Glendale Federal Savings, 3101 Crow Canyon Road, San Ramon.

MacCruisers — Santa Cruz. Meetings: 2nd Wed. Jade Street Community Ctr. at 45th Ave., Capitola, CA.

MacNexus — Sacramento's Macintosh Users Group. Meetings: 3rd Thurs. 6:30 PM Call (916) 446-2411 for info. 350 members, but still informal. Extensive public domain collection.

Silicon Valley Computer Society's Macintosh SIG. First meeting: September 21, 7:30 pm, 6th floor offices of Arthur Young and Co., Mitsubishi/Plaza Bank Building, 55 Almaden Blvd., San Jose. A forum for shared ideas. First meeting will be a demonstration of HyperCard. Other demos are planned for future meetings. Call: Dennis Dawson, (408) 947-5550.

The Bay Area MacForum. Meetings: 3rd Saturdays. Daly City Library, Serramonte Branch. Call: 771-5830.

TI-West Meetings: 2nd Fri. 8 PM Chabot College, Rm. 600, 25555 Hesperian Blvd., Hayward, CA. Access to a variety of pub. domain software, education modules "problem solving" peripheral committee.

Tri-Valley Macintosh Users Group (TMUG). Meetings: 4th Wed. 7 PM 4637 Chabot Dr., Rm. 107, Hacienda Business Park, Pleasanton. Newsletter, large P/D library. Contact James (eves) (415) 462-7536.

MICROSOFT

Mac Diablo Users Group (MDUG). Meetings: 3rd Tuesday, 7:30 PM, Community Room, Glendale Federal Savings, 3101 E. Crow Canyon Rd., San Ramon. Small, helpful group.

Microsoft Word Users Group. Meetings: 4th Mondays, 7:30 PM - 9:30 PM, Hewlett Packard-Cupertino-Oak Room Bldg., 48 Pruneridge, 100 yds. est of Wolfe off Hwy 280. August 22: Chris Donner, Pres. Access Softek on DRAGNET for Text Retrieval and Management. Call: Bill West, 356-8805.

Mirosoft Word SIG of the SVCS. Meetings: 4th Mon. 7:30 PM Hewlett—Packard, Oak Room, Pruneridge at Wolfe, Cupertino. Contact Bill West (408) 356-8805 or Hunter Jackson (4080 446- 4097.

MORROW

BAMDUA (Bay Area Micro Decision Users Assoc.). Meetings: 3rd Tues. 7:30 PM Albany Senior Center,846 Masonic Street (just north of Solano) in Albany, CA. Voice:(415) 534-4257. BBS:(415) 654-3882. P.O. Box 5152 Berkeley CA 94705.

San Francisco Computer Society. Meetings: 1st Mon. 7:00 PM. Homestead S&L, 5757 Geary Blvd., San Francisco. MS-DOS machines, Osborne, Kaypro, Morrow. Call Ralph Gallagher 929-0252.

NEC

Bay Area NEC/100 Users Group. Meetings: 1st and 3rd Thur. 7:30 PM Room 209C at College of Alameda. For those interested in laptops, especially Kyocera 80C85 type (NEC 8201a, Radio Shack Model 100 or 102. Call (415) 658-1889.

NOVELL

Novell Users Group - Silicon Valley. Meetings: 3rd. Wed. 7 PM 1170 Morse Ave., Sunnyvale, CA.

ORACLE

Northern California Oracle UG. Meetings: Call (408) 738-8330 for info. meets every 3 months at different Bay Area locations. Newsletter published between meetings.

OSBORNE

San Francisco Computer Society. Meetings: 1st Monday, 7:00 PM, Homestead S&L, 5757 Geary Blvd., San Francisco. CP\M and DOS machines. No BBS. Call Ralph Gallagher, (415) 929-0252 for information.

PARADOX

San Francisco Paradox Users Group. Meetings: 3rd Wednesday, call Jeffrey Edwards Co. for information, (415) 543-6227.

San Francisco Paradox Users Group, South Bay Chapter. Meetings: 3rd Tuesday, call Jeffrey Edwards Co. for information, (415) 543-6227.

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PLUG (The Plus/4 Users Group). No regular meetings. Over 800 members internationally.

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TRS Nybblers. Meetings: 2nd Fri. 8 PM Chabot College, 25555 Hesperian Blvd., Hayward. MS-DOS, CP/M, laptops, Mod 1, 3, 4, Mod 2, 12, 16, 6000. Bud Gallagher (415) 522-5960

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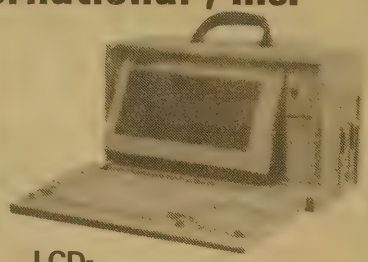

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San Francisco Solomon III Users Group. Meetings: last Wed.,odd months 6-9 PM Price Waterhouse, 555 California St. 36th Fl., San Francisco. Annual membership - $50; corp. membership - $75.

Solomon User Group of Silicon Valley. Meetings: For info contact Grihalva Associates, 39899 Balentine Dr., Suite 175, Newark CA 94560.

S—100

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San Francisco 99ers. Meetings: 3rd Saturdays, 3751 Elston Ave. Call: Fred, (415) 530-8335.

Thousand Oaks Personal Computer Club (TOPCC). Meetings: monthly. Call: (714) 686-0336.

TIMEX/SINCLAIR

Timex Sinclair East Bay Z80 Users Group (TSEBZUG). John Ezike, (415) 843-5507.

Timex Sinclair Peninsula Users Group (TSPUG). Contact George Mockridge, (408) 878-1773.

Timex/Sinclair Users of Silicon Valley (GUTS/SV). Meetings: each Sat. 9 AM Stanford Univ., Jordan Hall (quadrangle), Math Bldg. RM 380C. SW library & newsletter. For topic check PDSE BBS in Sunnyvale (408) 735-7390, 300/1200, 8-N-1, 24 hrs.

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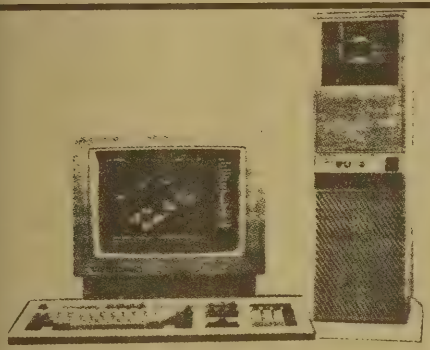

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MT9/88

Foxbase+/Mac *continued from page 104*

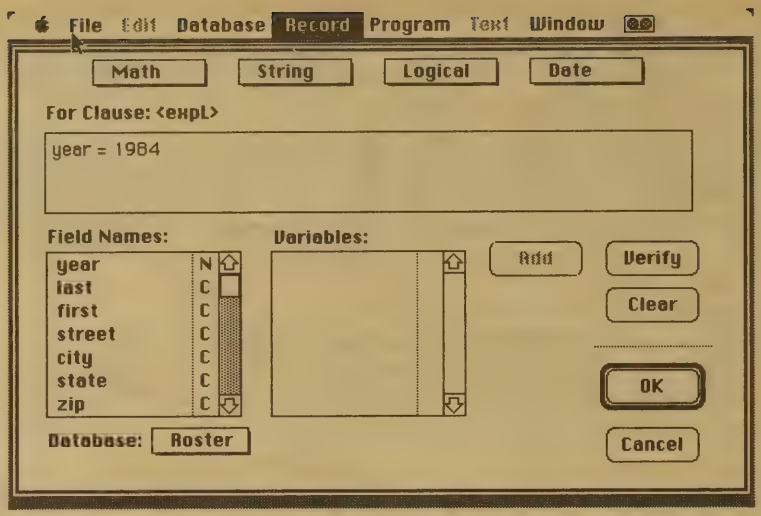
the normal Mac display mode is black on a white background. So, you may have to fool around with your foreground and background colors until you find an aesthetically pleasing combination.

In addition to including the rudimentary screen control commands that insure compatibility with the DOS version, *Foxbase+/Mac* also has a wealth of Mac-specific features which can make your programs truly look and feel like Macintosh applications. *Foxbase+/Mac* has the ability to display and store bit-mapped graphics in PICT format. These graphics can be resized or cropped for use in your application programs. Programs can access a variety of different windows types—scollable, movable and resizable. You can also use radio buttons, picture buttons and check boxes. In fact you can even use a stored graphic as a picture button.

Fonts are also well supported by Fo*xbase+/Mac*. You can mix fonts to your heart's desire within your programs and even customize the different windows within *Foxbase+/Mac* to display different fonts.

Foxbase+/Mac's help facility is also outstanding. Help itself comprises a database which can be customized and incorporated within your own programs. Like all the user windows, the Help window can be resized. But it also includes a word-wrap feature which adjusts Help explanations to the width of the help window.

Even with all these features, *Foxbase+/Mac* is extremely fast. Although I didn't get a chance to benchmark it against any other Mac databases, my impression was that speed, which was the hallmark of its DOS heritage, has been carried through to the Macintosh. I suspect you'll have a hard time finding a database that beats it.



The expression builder is a mouse-driven way of constructing any kind of conditional clause.

Foxbase+/Mac comes with two manuals: a tutorial and a general reference. The 13 lesson tutorial gives a comprehensive introduction to using the program, but is aimed at beginners. It gives very little guidance to those interested in programming, and in particular, says nothing about its Mac-like programming commands. Those interested in programming are better off consulting one of the multitude of dBASE books. The general reference manual is only adequate. It gives a fairly good command and function summary, but I found some of the explanations a little confusing, and I had to do a fair amount of searching to find information on a number of topics.

Fox Software has accomplished two noteworthy feats with *Foxbase+/Mac*. They've taken the *dBASE* standard established on the PC and translated it to the Mac, insuring that it will run existing *dBASE* programs and databases without modification. This opens up a whole universe of existing, commercially available *dBASE* code to the Macintosh world. Any database application you'd like to design probably exists (at least in part) in published *dBASE* . For PC users of *dBASE* who also use the Mac, this comes pretty close to must-buy software. But Fox Software has also turned a PC standard into a real Mac application. And their fast and well designed program should make it a serious contender for the portfolio of those who cut their teeth on the Mac as well. (Fox Software, 118 W. South Boundary, Perrysburg, Ohio 43551, 419/874-0162. Suggested retail: $395.)

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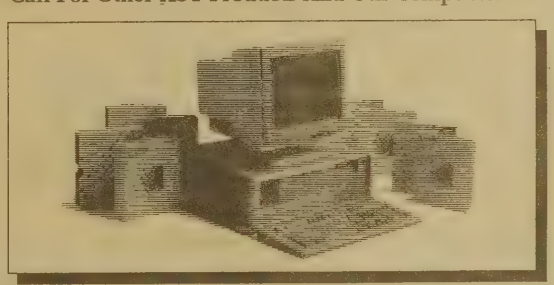

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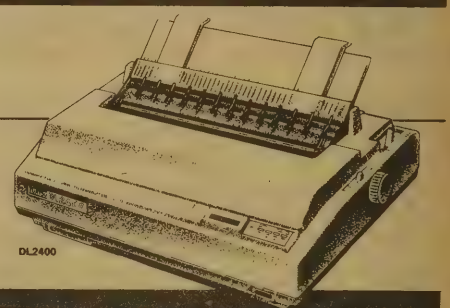

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In Search Of The Feminine Computer, Part II

Or—What Did I Do To Deserve This Abuse?
I Only Work Here, Ma'am!

A couple of months ago I ran a longish letter from Jess Ivanhoe who suggested the design of a feminine computer: one designed with females in mind, oriented towards self improvement and produced in designer colors. According to Ivanhoe, it needs to be something "chic and fashionable."

Well, golly gee whiz, this mere suggestion got half of the women in Northern California all hot and bothered. It must have been Ivanhoe's tone.

Or perhaps it was simply because he was a male. I wonder what the response would have been if the letter were composed by a woman?

Here's some of the feedback (good and bad) to the Ivanhoe letter:

What About Fingernails?

I do not believe there is any need for a "woman's" computer as A. Jesse Ivanhoe suggests (with one exception which I will mention later). Reading his letter, I get the feeling he has visions of little pink icons along with recipe-filer-in-ROM and a floral zippered carrying case. I suspect what women REALLY want in computers is a better keyboard. Today's keyboards are too big overall with key caps which are too big and not enough space between the keys. If I type the way I'm supposed to type, there's no place for my fingernails go. Look at the Selectric II if you want to see a good keyboard. Lest you think I'm "just a secretary," I'm a senior systems programmer with a Computer Science degree.

—Jennifer Freeman, San Francisco

Column For Dogs

Nice job stereotyping men and women who use computers. Boy, you're right! Women could loosen up a bit and spend their time perfecting the California Cooler mystique. May you spend your afterlife with Spuds McKenzie. And may he use the paper that column was printed on as a fun-loving dog will.

—A.M. Black, Pittsburgh, PA

Don't Call Me Gal!

Oh come, come (Sir) Ivanhoe of Walnut Creek. Where's your vision? Could it be clouded by that primordial slime whence you've surely crawled? I want to congratulate you for thinking like a stegosaurus. You remember it: the one with the brain in its head and a brain in its tail! Oh, and John. Don't call me "gal," call me doctor!

—N.J.Membrez, PhD, Santa Cruz

Eh? What's up doc?

Don't Call Me Gal, Part II

I haven't got the time to do this—but I really must! To begin with, it is the head space that calls women "gals" that loses them. We're not gals, girls, chicks or tomatoes. We're women. I'm 66 years old and am working on an SE, with *FullWrite Pro* and other software. I taught myself on an Apple IIe and then got bored and moved to an SE. As for pastel computers, c'mon. How they look will never be as important as what they do for women or for men. True, one of the reasons I like the SE is that the design is a little less obtrusive in my apartment. But I bought it for what it DOES!

—Elizabeth Gips, Santa Cruz

Hey, everyone, I never said I agreed with Ivanhoe! As for my usage of "gals," which is hardly offensive, I'd like to say that I'll never use "gal" again when women of all ilks stop referring to males as: guys, boys, studs, hunks, bastards, wusses, wimps, creeps, chauvinist pigs and pretty boys. It's so common in Berkeley to rudely call men chauvinist pigs (pigs, mind you!) to their face (or commonly in print) that I'm sickened by this usage and the hypocrisy of these women and their constant complaining about men who, for example, use the word "girl" when referring to a 13-year-old! But I digress.

He Heard It!!

I think Ivanhoe is sincere in his briefing of designer, self-help computers. Just recently at both FRY's Electronics and at Datasource Computers I overheard ladies exclaim, "These laptops are nice, but I wish they came in more colors!" and "If only they were more colorful and pre-programmed with a diet plan!" I found both comments comical at the time, but it appears that A. Jesse Ivanhoe has placed a finger on the pulse of what may be the next wave of computers!

—David Wilkens, Santa Clara

Hate Mail

You must be lonely for hate mail and too lazy (or burned out) to come up with your own caustic drivel—that's the only explanation I can come up with for the appearance of the letter from Mr. Ivanhoe. What tripe! Who says women aren't interested in computers? If a woman's hobbies are shopping at Macy's and buying self-help books, then she's not going to need a computer. But the last time I checked, that was not what ALL women were doing.

—Susan Kersnar, California

Injury To Insult

Regarding the letter on females and computers, I think Mr. Ivanhoe could use a little self-help himself. The injury added to insult of offering a designer-colored little laptop pocketbook "with only words and no memory or fancy graphics." The injury is being regarded as a brain cell-deficient, subchildish species instead of the full humans we are.

If you want women's computer interest to magnify, be less nerdy and more humane. Be less ingroupish and esoteric and more humane. Be less technoid and obscure.

—Sharon Skolnick, Fairfax

"Where's your vision? Could it be clouded by that primordial slime whence you've surely crawled? . . ."

"We're not gals, girls, chicks or tomatoes. . ."

"You must be lonely for hate mail . . ."

"The injury is being regarded as a brain cell-deficient, subchildish species . . ."

"OK, Dvorak, here's what women want out of computing . . ."

What Women Want

Ok, Dvorak, here's what women want out of computing: Elementary schools, junior highs and high schools that actively encourage girls to learn about computers, math and science instead of directing them away from these areas.

—Lisa Hirsch, Richmond

Next month: The next installment of the Search for the Feminine Computer. It's a fascinating letter from a Fremont woman that best answers Ivanhoe's tome.

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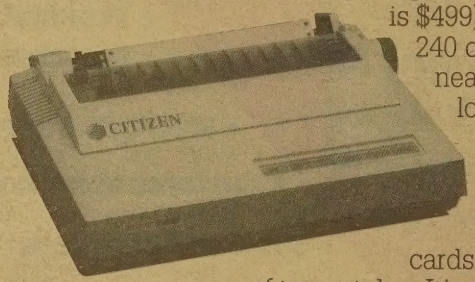

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